North American Car introduces first **glass-resin tank** for railroad car service . . . . . p. 34

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April 8, 1963

RAILWAY AGE WEEKLY

RRs attack car-supply problems

p. 16

- Are car shortages necessary?
- How is market demand changing?
- How can carbuilders adjust?

Tomorrow's freight cars—today

p. 22

- What special cars are in use?
- What trends are shaping up?

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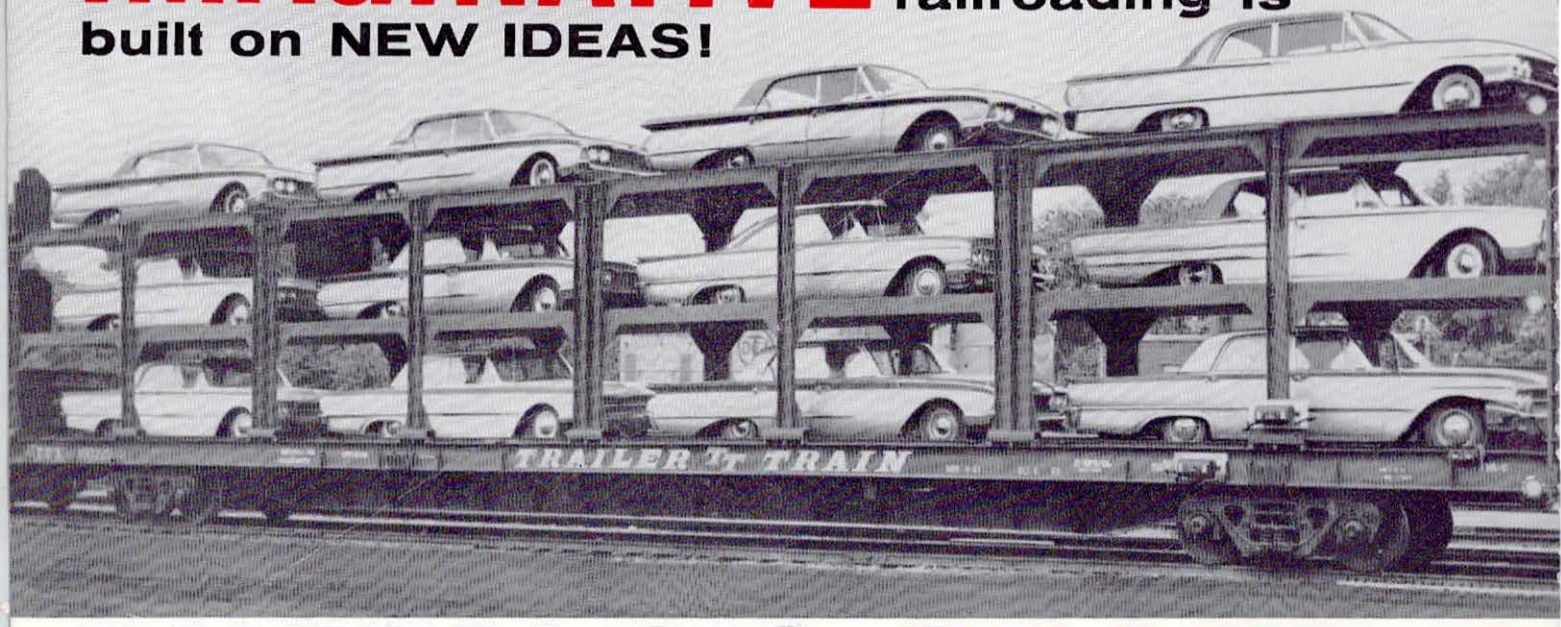

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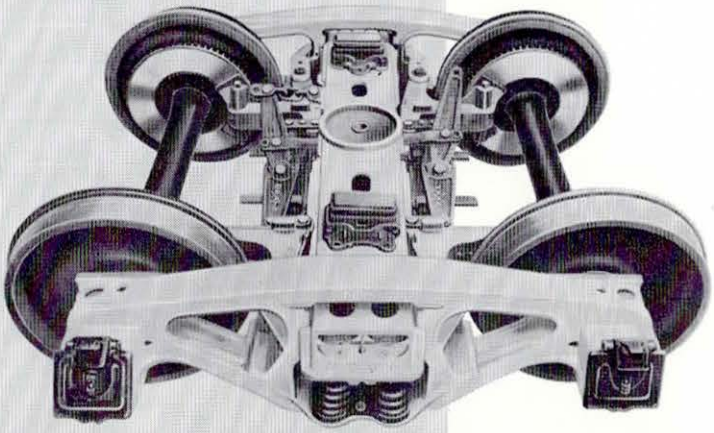

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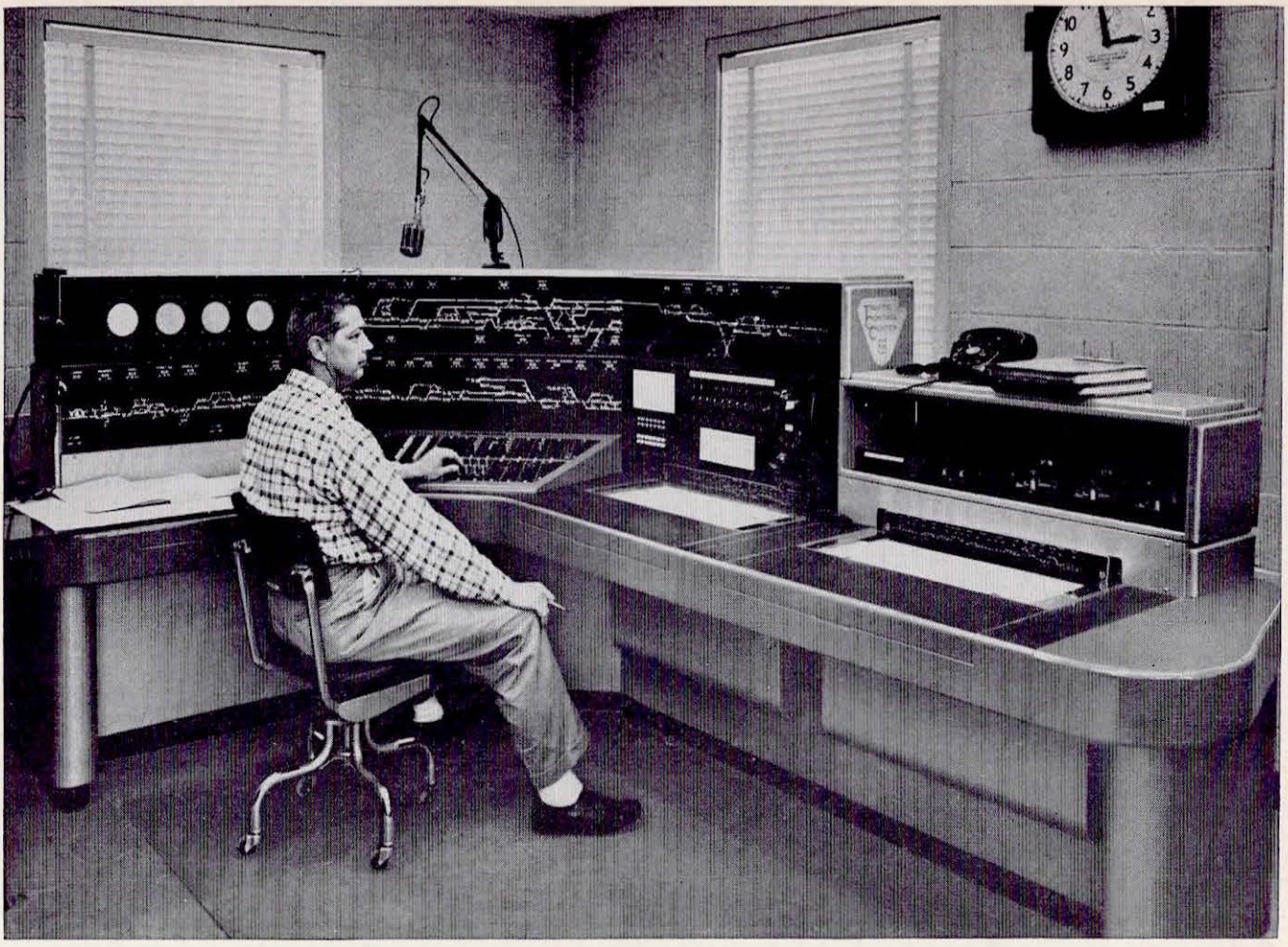

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RAILWAY AGE WEEK AT A GLANCE

April 8, 1963 • Vol. 154, No. 13

JFK acts in rules case

The nation should know, within 60 to 90 days, whether the rules dispute will end in settlement or strike. A just-created emergency board starts work on the case April 11 .....**p. 9**

New revenue split may shift $50 million

The recutting of the transcontinental revenue pie means more for eastern and midwestern roads, less for western carriers. A court test is likely **p.13**

RRs attack car-supply problems

Car shortages are likely to become less frequent and less severe as tax benefits spur short-range buying and as per-diem changes offer an incentive for long-range programs.....**p.16**

Tomorrow's freight cars today

Much current car-design research is aimed at breaking down technological barriers to further increase the carrying capacities of freight cars **p.22**

From North American: glass-resin tank car

A revolutionary plastic tank car will be introduced this week in Chicago. After a period of captive service on Southern Pacific, ICC and AAR approval will be sought **p.34**

SURCOM proposal outlined

A nation-wide railroad communication service that could lead to car reporting and car accounting on a national basis was among the topics discussed at a recent RSMA meeting **p.50**

Car development: New emphasis at ACF

The ACF Technical Center for freight-car research and development, being dedicated this week, is designed to help railroads reduce their patrons' distribution costs **p.68**

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RAILWAY AGE WEEK AT A GLANCE

The Action Page—Trends . . . all important

What are the opportunities for improved economy—and improved competitiveness—which could be as constructively effective as piggyback and incentive rates have been?.....**p.74**

Short and Significant

The ICC signal hearing has been postponed . . .

from April 10 to May 7. This Ex Parte 171 proceeding concerns proposed changes in the Commission's Rules, Standards and Instructions on signal systems.

The PRR will spend $4.9 million . . .

to rehabilitate 236 passenger-train cars. Fifty roomette sleepers will be converted to reclining-seat coaches, and 186 other cars will be extensively remodeled.

Last year's lowest operating ratio . . .

is claimed by the Norfolk & Western. The figure—56.6%—was established during a year in which the road also reported its all-time record net income of $65.4 million.

Federal budget cuts . . .

proposed by the U. S. Chamber of Commerce involve a $175-million reduction in items relating to transportation, including a $100-million cut in the proposed transit-aid program.

A study of Toronto-area rail lines . . .

is being sponsored by the Ontario Provincial Government for possible establishment of commuter and/or rapid transit services. CN and CP tracks in a 30-mile area are involved.

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Current Statistics

Operating revenues	
12 mos., 1962	$9,439,894,771
12 mos., 1961	9,187,122,899
Operating expenses	
12 mos, 1962	7,418,555,063
12 mos., 1961	7,271,159,800
Taxes	
12 mos., 1962	905,083,609
12 mos., 1961	991,555,905
Net railway operating income	
12 mos., 1962	725,645,679
12 mos., 1961	537,694,880
Net income estimated	
12 mos., 1962	574,000,000
12 mos, 1961	384,000,000

Carloadings revenue freight	
13 wks., 1963	6,600,442
13 wks., 1962	6,902,063
Freight cars on order	
March 1, 1963	19,952
March 1, 1962	17,736
Freight cars delivered	
2 mos., 1963	5,519
2 mos., 1962	4,818
Serviceable cars	
March 1, 1963	1,416,368
March 1, 1962	1,459,356
Cars awaiting repairs	
March 1, 1962	128,286
March 1, 1962	140,470

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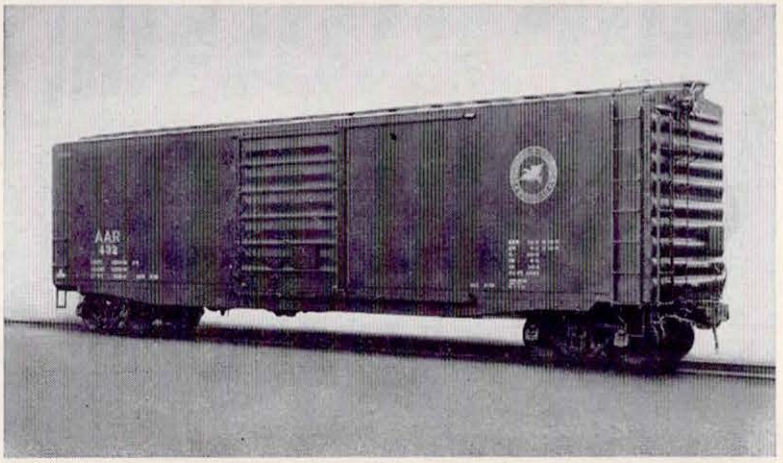

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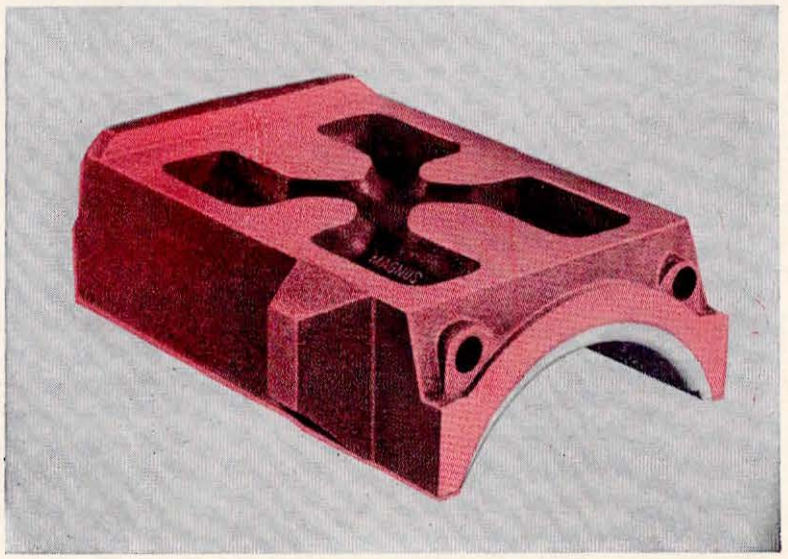

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COUNTDOWN TO SHOWDOWN

MANAGEMENT:

'At 12:01 a.m., on April 8, we will make work-rules changes intended to end the featherbedding problem . . .'

THE FIVE BROTHERHOODS:

'We expect that a crisis will be averted. . . This dispute must ultimately be settled by the parties themselves.'

PRESIDENT KENNEDY:

'By virtue of the authority vested in me. . . I hereby create a board of three members. . . to investigate.'

JFK Acts in Rules Case

Within 60 to 90 days, the nation should know whether the bitter rules dispute will end in settlement or strike. An emergency board, created last week, will start work on the case April 11.

The work-rules dispute has come full circle. Once deemed too complicated for handling under normal Railway Labor Act procedures, it's now headed for a last-ditch settlement attempt—before a three-man emergency board created under the RLA.

Within little more than 24 hours last week, the carriers acted, the operating unions reacted, and the government stepped in. First, J. E. Wolfe, chairman of the National Railway Labor Conference, said the railroads would make their original (1959) rules notices effective at 12:01 a.m., April 8. The five unions replied calmly, without reference to the strike which would have been inevitable had the carriers' timetable-for-change held up. Finally, on April 3, President Kennedy created an emergency board—as both sides expected he would. The President named three prominent labor-management experts to take over the case and attempt to bring about settlement.

● **Waiting begins.** The nation, the industry and the brotherhoods promptly settled back to wait out the 60 or 90 days until the crisis-hopping dispute hits its next possible peak.

Under the Act, the board has 30 days (to May 3) to investigate and file its report. For another 30 days (to June 2), neither the carriers nor the ops can make a move. It is considered likely, however, that this board—whose activities are expected to be more mediatory than investigatory—may get (by mutual agreement) a 30-day extension of the study period, which would push a showdown back to July 2.

● **Notices served.** The railroads' implementation notices were, verbatim, the sweeping rules notices served Nov. 2, 1959, covering changes in manning requirements, pay structure, interchange of road and yard crews and extension of crew operations. Most immediate move permitted by the notices would be elimination of freight- and yard-service firemen—about 40,000 men.

As matters stand, the emergency board is scheduled to begin its difficult task Thursday afternoon, April 11, in Washington. The trio named by the President to handle the dispute consists of:

● As chairman, Samuel I. Rosenman, New York lawyer and former justice of the New York Supreme Court. He served as a special advisor to Presidents Roosevelt and Truman, has been a member of many special boards and committees, including the fact-finding board created during the steel industry dispute four years ago.

● Clark Kerr, president of the University of California at Berkeley since 1958 and a highly regarded mediator in West Coast labor disputes.

● Nathan P. Feinsinger, of the University of Wisconsin Law School. Active in the labor-management field for more than 20 years, he also saw government service during the Truman Administration, as chairman of the Wage Stabilization Board.

Creation of the emergency board puts the dispute squarely under the Railway Labor Act—from which it was removed when carriers and brotherhoods agreed to establishment of the Presidential Railroad Commission in 1960. The PRC report—generally backing the railroads' position—was filed Feb. 28, 1962. The carriers accepted it. The unions did not.

● **Court tie-up ends.** Since then little progress has been made. The case was tied up in the court until March 4, when the U.S. Supreme Court ruled that the parties were free to resort to self-help and that the carrier proposals

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

● **GOOD-NEIGHBOR RELATIONSHIP** between U.S. and Canadian railroads, with an assist from the U.S. Commissioner of Customs, is helping to relieve the tight box-car situation in the West. Until May 1, the Canadian Pacific is authorizing unrestricted loading in this country of some of its box cars which are made empty here. Exceptions are cars used for shipments of paper, but the authorization made about 4,000 other CP box cars available as soon as it became effective late last month. It applies to about 15,000 additional cars, and some of these are also becoming available each day as they arrive in this country with shipments from Canada. Normally, Canadian cars made empty in this country can be loaded to U.S. destinations only in accordance with the AAR's Car Service Rules, i.e., toward home.

U. S. CUSTOMS REGULATIONS prohibit their use for any other service here. Temporary waiver of these regulations was the assist which the AAR's Car Service Division got from the Commissioner of Customs.

CSD REQUIREMENTS as to use of the CP cars are designed to insure their maximum contribution to the easing of shortages in grain-loading areas. The requirements stipulate that the cars must be loaded west of the Mississippi river. While the loading may be to any destination in this country, CSD suggests that the cars be used, if possible, for shipments where turnaround time will be short.

MEANWHILE, the eligible CP cars which are made empty at points east of the Mississippi may be used by railroads there to comply with outstanding CSD quota orders. These require expedited movement of box cars from the East to grain-loading areas.

● **THIS YEAR'S FIRST-QUARTER TRAFFIC,** as measured by ton-miles, was not as good as reported in Railway Age of April 1, page 9. It was probably about the same, or only slightly better, than that of 1962's first quarter. The 5% increase should have been identified as an increase in ton-miles per car loaded—not as an increase in total ton-miles.

WHEN CARLOADINGS ARE DOWN from a year-earlier period, the upward trend in ton-miles per car loaded brings an increase in traffic only if the drop in loadings is less than about 5%. That's because the annual increase in ton-miles per car loaded (due to bigger cars and heavier loadings) has been about 5% in recent years. On that basis, it will offset a drop of about 5% in loadings, which was the situation in the first quarter, when they were off 4.7%.

GENERALLY, therefore, this upward trend in ton-miles per car loaded will make traffic 5% better than loading figures indicate, increasing it 4% when loadings are off 1% and raising it 5% when they remain the same, for example. Thus, the article in the April 1 issue made correct use of the trend in its other prediction, i.e., that the 1.5% increase in loadings forecast for the current quarter would bring a 6.5% increase in ton-miles.

IT WORKS THIS WAY: Assume a 1963 week in which loadings totaled 475,000 cars, down 5% from 500,000 loaded in the comparable 1962 week. Meanwhile, ton-miles per car loaded rose the expected 5%—say, from about 20,000 to 21,000. So, the 475,000 loads producing 21,000 ton-miles per load would yield a total of 9.975 billion ton-miles, pretty close to the 10 billion yielded by the 500,000 loads producing 20,000 per load.

do not violate the RLA. An injunction barring management from making changes was dissolved April 2.

Mr. Wolfe then announced that the railroads "notified the National Mediation Board that at 12:01 a.m. on April 8, we will make work-rules changes intended to end the featherbedding problem." The carriers, he added, "understand President Kennedy will probably name an emergency board before the unions set a strike date." The unions, in return, said they were "cooperating with the government to avoid any interruption to railroad service." They, too, expected an emergency board, which "can make a contribution in bringing the parties together in collective bargaining leading to a fair and peaceful settlement."

● **NMB notifies President.** The President acted a day later, noting that, in NMB's judgment, the dispute threatens "substantially to interrupt interstate commerce to a degree such as to deprive a section of the country of essential transportation service."

Meanwhile, the Florida East Coast—already struck by the non-ops in a wage dispute—served notice implementing its 1959 rules proposals April 3. FEC withdrew from national handling of the rules case March 12. The Brotherhood of Locomotive Engineers promptly authorized a strike, beginning April 5, and the other ops were expected to follow suit. Despite the non-op strike, FEC has been operating four mainline trains and a branch line train daily and has yard engines working at three points. Trains have been manned by supervisors and strike calls by the ops are not expected to affect operations.

● **Arbitration favored.** As the rules case moved ahead, nationally and on the FEC, rail management gave another indication that it favors compulsory arbitration on disputes that can't be settled in bargaining. Jersey Central President P. M. Schoemaker testified—and AAR President Daniel P. Loomis was scheduled to testify later—on HR. 1897, a bill providing for compulsory arbitration of maritime-industry disputes. Their position before the House Merchant Marine and Fisheries Committee: 1897 exemplifies a principle which railroads think should be extended to all carriers, and that the industry favors collective bargaining but believes arbitration at the end of the line would help, not hinder, the bargaining process.

Experience with emergency boards, the carriers have long contended, indicates that while management regards a board report as virtually an arbitration document, unions view it as a floor from which to bargain upward. Under the RLA, emergency-board reports are not binding on either side, and arbitration cannot be entered into unless both sides agree to it.

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Revenue Split May Shift $50 Million

Eastern and midwestern railroads would get that much more out of revenues from joint transcontinental rates under revised basis of divisions ordered by ICC. Court test is likely.

The ICC's decision for the transcontinental division case (RA, April 1, p. 7) may shift as much as $50 million a year from western railroads to eastern and midwestern lines. With so much at stake, a court test of the Commission's ruling may be expected.

The ruling was embodied in a report by Commissioner Herring, which was dated March 21 and served March 28. The prescribed division bases will become effective July 1. There were four separate expressions — from Commissioners Bush, concurring in part, Hutchinson, dissenting in part, and Freas and Goff, both dissenting.

The $50 million figure was in the Hutchinson statement. The majority report gave no estimate as to the financial effect of the Commission's action.

The case is No. 31503, instituted about nine years ago when a complaint was filed by eastern roads. Involved also were other complaints which came from midwestern roads and cross-complaints filed by the western lines. All of the complaints assailed present divisions and sought larger shares of the joint revenues at stake for the respective complainants, thus pointing up their mutually adverse interests.

● **Victory for eastern roads.** Under the decision, eastern railroads will get pretty much what they sought. On shipments between New York and the Pacific Coast, for example, their division is now 27½% of the joint revenues. They sought 37%, and the decision will give them 34%. These East-West divisions will remain on the so-called point-to-point basis, i.e., applying between territory groups in Western territory and like groups in Eastern territory. The principal interchange points will be Chicago, St. Louis and Peoria, Ill., but Mackinaw City, Mich., and Kewaunee will be interchange points for traffic moving over Lake Michigan carferry routes.

For divisions on West-Midwest traffic, the Commission prescribed new division scales, as requested by the midwestern railroads. The general effect will be to raise the midwestern lines' share of the West-Midwest revenues from 16½% to about 22%. Thus, they will get about what was recommended for them by Examiners Howard Hosmer and Oren G. Barber in their proposed report in the case, although the examiners did not recommend the new scales which the Commission prescribed. As to the eastern roads, the Commission was more generous than the examiners, who would have raised their take to only about 32% of the transcontinental revenues (RA, Dec. 12, 1960, p. 9).

● **$1.5 billion pie.** Losers, of course, will be the western roads. The record in the case showed that, on the basis of 1953 traffic, the annual-revenue pie which will be recut is a $1.5 billion dish. In their cross-complaint, the western lines sought to raise their share of the revenue at stake by about 10%.

Much of the Commission's report is devoted to a review of the cost evidence, which the examiners had called a "tangled skein of controversy." The Commission appraised it generally as a showing that "present divisions are favorable to the defendants [western roads] to an extent not justified by ascertainable cost differences." Other general conclusions set out in the report were that "none of the contending groups is less efficiently operated than another"; and "there are no differences in the importance to the public attributable to the three contending groups of carriers."

Regional comparison made

The report's comment on the relative prosperity of the contending roads, and thus their revenue needs, included reference to three tables in the record which compared, on regional bases, the revenue ton-miles, freight revenues and net railway operating income of the 1923-1930 period with those of the 1946-1958 period. "The most significant feature" of the showing as to net railway operating incomes "is the reduction of 31% for carriers in Official Territory, contrasted with the overall reduction of 14%," the Commission said.

● **'Inferior position.'** "The three comparative statements," the report continued, "indicate clearly the inferior position of the railroads in Official Territory as freight carriers, compared with the Western District since World War II.

"In 1923-1930, the annual average ton-miles of the Official Territory lines exceeded those of the Western District by 51%; in 1946-1958, the Official average was 4% lower than the Western. The Official lines in 1923-1930 had 30% more freight revenue than the Western District; they had 0.3% less in 1946-1958. The net railway operating income of the Official lines in 1923-1930 was 31% greater than that of the Western District; in 1946-1958, it was 9% less."

● **New split questioned.** Commissioner Bush agreed with the majority's finding that the present divisions are "unjust, unreasonable and inequitable," but he called the bases prescribed "more favorable to the complainants than I would be inclined to prescribe in the exercise of my own individual judgment."

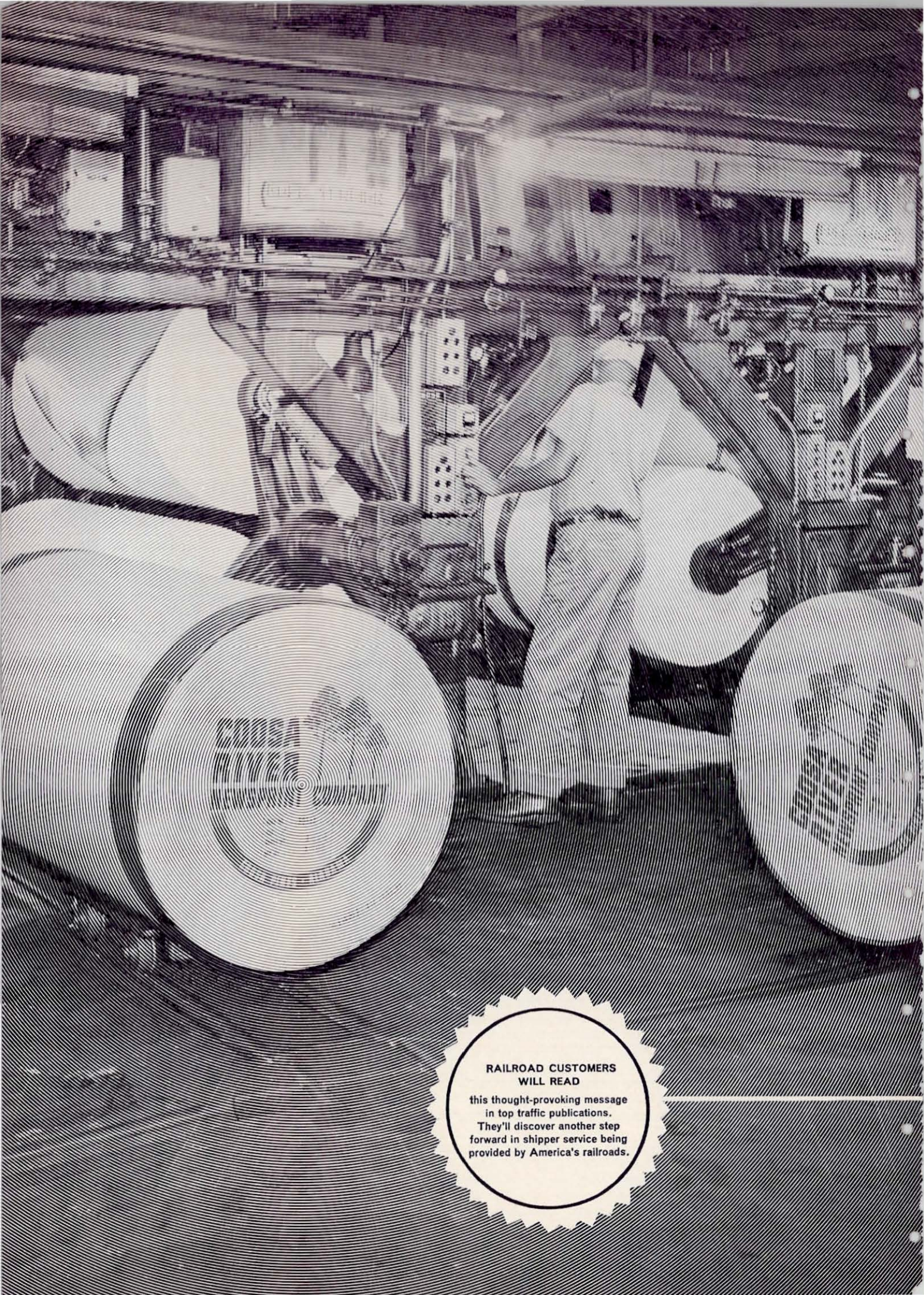
"The majority," Mr. Hutchinson said, "seems to emphasize the revenue needs of the eastern roads without giving adequate consideration to the impact of the adjustment on the revenues of the transcontinental lines which originate the preponderance of the traffic and depend upon revenue from interterritorial traffic to a far greater extent than do eastern and midwestern carriers."

While conceding that "some adjustment may be warranted," Commissioner Freas emphasized his view that the "substantial changes" prescribed were "not supportable."

● **Incentive-killer?** "Excepting possibly in situations not here present," Mr. Freas added, "I consider it improper to equalize the different fortunes of groups of carriers which are the result of economic conditions prevailing in the various localities . . . With equalization as the objective, there will be little point or incentive for either investor or management to seek out and invest money or expend effort in the more promising carriers."

Commissioner Goff's dissent recorded his view that the majority had not given sufficient consideration to the relatively higher efficiency" and "importance to the public" of the Mountain-Pacific lines, and to the fact that they are predominantly the originators of the traffic involved.

Mr. Goff added: "Consideration of revenue need seems here to have unduly swayed better judgment in arriving at the new scale of divisions. I would retain the present basis as more equitable than the, to me, confiscatory extremes prescribed."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Pullman-Standard Hydroframe-60* Box Cars, with 30 inches of cushioning, have virtually eliminated this problem.

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Single decked shipments were so successful Coosa River tried double decking, with complete success. Now they ship more rolls per car, handling costs have been reduced, switching time and paper work have been slashed and one Hydroframe-60 Box Car does the work of two ordinary cars.

Here is a typical Coosa River shipment. A Hydroframe-60 Box Car was loaded with eighty-three newsprint rolls, 138,000 lbs., and shipped from Coosa Pines, Ala., to the Miami Herald, Miami, Florida. On arrival, the load was found perfect, unloading was fast and easy and the rolls were ready for the presses.

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SPECIAL REPORT:

RRs Attack Car-Supply

Car shortages still happen—but they'll likely become less frequent and less severe. Car orders are turning upward. Emphasis on 'exotic' cars continues—but there may also be a rebound in orders for general-service cars. Reasons: Tax benefits will spur buying over the short-range; changes in per-diem rates, railroads and builders believe, will provide an incentive for long-range car-buying programs.

Nobody likes a car shortage. Nobody ever quite gets used to one—even when shortages recur, year after year.

Railroads fume helplessly. Revenue is being lost, sometimes forever. Shippers react angrily, or in disgust. Sales can't be completed if freight can't be moved. Carbuilders look on wistfully—as they survey huge plants geared for mass production of big-volume orders that seldom come. Legislators often get into the act with resolutions and bills and studies that haven't—yet—produced much of value so far as beefing up the freight-car fleet is concerned.

That's one side of a much-fingered coin.

● **Success story.** The other side tells a story of success. Railroads, shippers, carbuilders—working together—perform mechanical miracles. Idea is translated to design, design to construction, construction to service. Exotic freight cars, produced and bought to fill specific shipper needs, roll off builders' assembly lines in increasing quantities. (This week's entry: the Poxyglas tank car which North American will display April 9-10 in Chicago. See story on page 34.)

Railroads put the "exotics" to work to retain business or gain new revenues. Shippers are well-satisfied with the quality and quantity of cars furnished. Carbuilders' plants hum with activity once again. Legislators, hearing no complaints from their constituents, nod approvingly.

● **Upturn predicted.** This year, freight-car buying will turn sharply upward. Through the rest of the decade, carriers and carbuilders predict a leveling-off of orders—but at a point substantially higher than the average for recent years. Nobody sees a weakening of the trend to specialization. But at the same time, more attention is being given to the problem of the shipper who needs general-service equipment. Based on the current outlook, he'll benefit three ways: Purchase of more specialized cars will free conventional equipment for more varied uses; a minor boom is taking place in the car-rebuilding business, both in company and contract shops; and many railroads, with a bit more money to spend on equipment, are taking a longer, harder look at the market demand for standard cars.

The basic problem could hardly be more basic: money. Almost every choice involved in car supply has its roots in cash supply, either as a matter of absolutes or as a matter of relatives. And, with many railroads living in Poverty Hollow, if $5 million spent for CTC will produce a greater return than $5 million spent for box cars, the temptation is strong to buy CTC—and rent box cars at $2.88 a day.

In a sense, railroads are like the housewife who needs a dressy dress and a work dress—and she can't afford both.

The declining fleet

Figures tell the story simply (see charts on facing page).

Railroad freight-car ownership hit its recent peak in 1953 and, except for a brief rebound in 1956-57, has gone down steadily from a high of 1,776,816 cars to about 1,550,000 last year. Total freight-car capacity follows a similar line, peaking at 95-million-plus tons in 1953 and again in 1957 and then dropping off to approximately 87.3 million tons in '62.

● **Design for capacity.** There are offsetting factors. New car designs stress high capacity, so the average per-car-capacity figure is climbing. Incentive rates encourage heavier loading of both special and conventional equipment. Increased train speeds and reductions in terminal delays, make for better car utilization. Car-buying is being spurred (over the short-term, at least) by improved depreciation guidelines and the 7% investment tax credit. Purchases could be affected even more dramatically (and over the long-run) by the coming switch from fixed to variable per-diem charges.

Railroad men—some of them—say trends in car capacity and utilization make it possible for a smaller fleet to handle the business. Shippers—many of them—don't agree. They point to recent car shortages (including last month's box-car shortage, described as "the worst yet") as evidence that a number of railroads aren't prepared to take care of today's business, let alone the traffic increases predicted for the future. They lend a sympathetic ear to railroad problems, financial and otherwise—but they're not about to run their distribution patterns on a basis of what railroads can or cannot do. "If railroads can't give my company what we need," one major shipper declared not long ago, "we'll get it somewhere else."

Shippers fight back

To an increasing degree, shippers are making it clear that railroad hopes for boosting traffic depend on their providing better cars and more of them. In only a few areas of the country—including the Far West, the Northwest, the Southeast—do officers of regional shippers advisory boards think railroads are in position now to handle increased business. And even in these regions, shippers cite recurring spot shortages, particularly of 40- and 50-foot wide-door box cars.

Elsewhere, the picture is somewhat bleaker. Shipper-board officers break into superlatives in talking of last year's car shortages—"one of the most critical shortages that I have witnessed in the past 17 years," it's termed by Paul L. Mills, general chairman of the Southwest board. During autumn of '62 in west Texas, Mr. Mills notes, "carriers were short between 200 and 500 cars daily for almost 90 days."

● **Shortages continue.** Things weren't much better farther north, in Central

Problems

Western board territory. Shippers were plagued by grain-car shortages last year, says General Chairman Rolland R. Wages, and "the frequency and severity of recent equipment shortages would tend to raise some doubt that the railroads could handle more than a slight increase in traffic without experiencing car-supply difficulties, at least in selected instances."

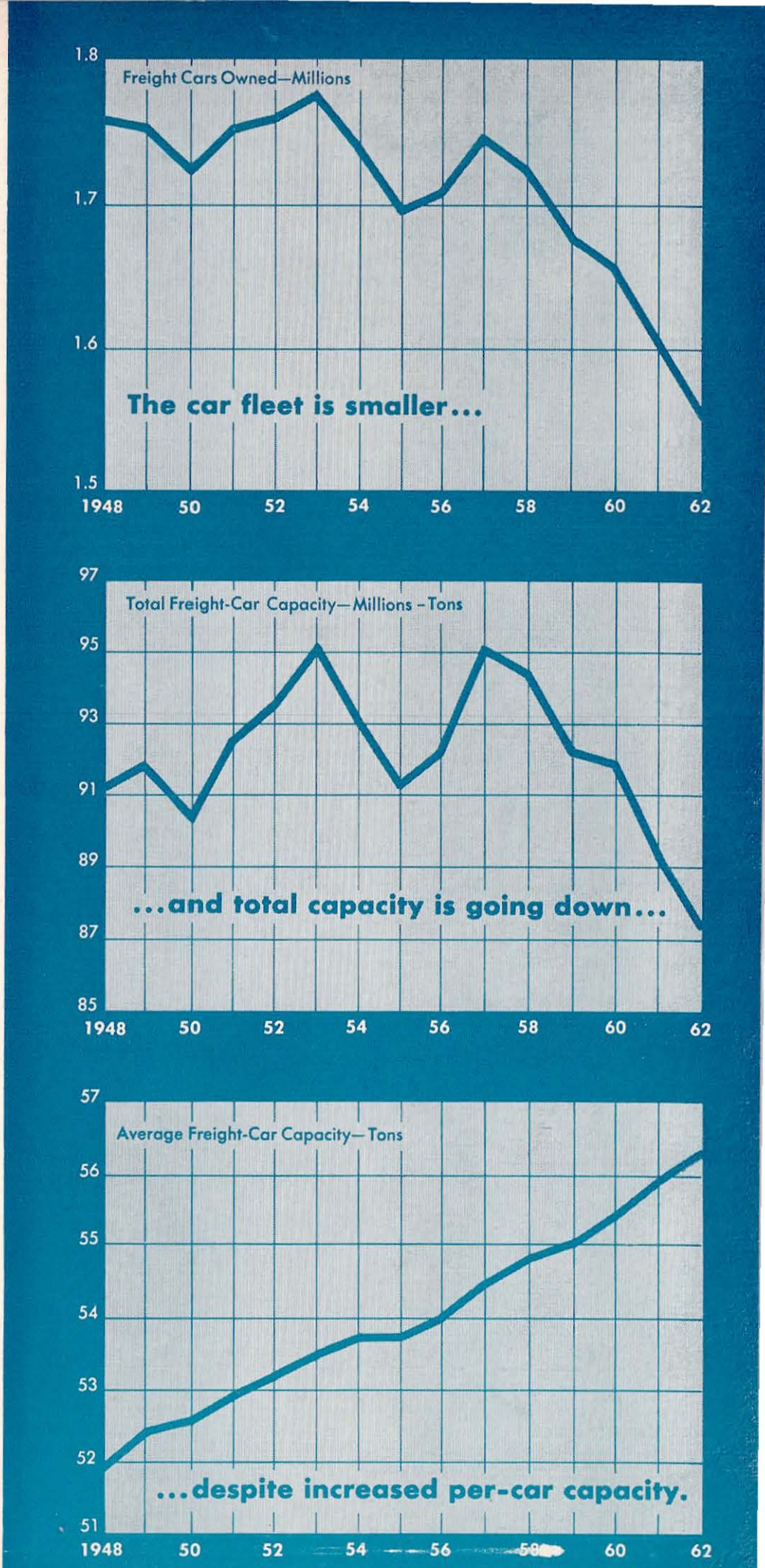
John A. Faller, president of the Great Lakes board, is even more emphatic. "Shippers in our region experienced serious car shortages in 1962," he says, "and they are expected to continue in 1963 to the same degree, or worse. . . . Railroads would be hard-pressed to handle even a modest increase in traffic, since they are already struggling under the present economy."

In the Far West, notes Allen K. Penttila, Pacific Coast board general chairman, "railroads could adequately handle a modest increase in traffic without additional equipment." But then Mr. Penttila cites a matter of utmost familiarity to western railroaders: "One of the problems of West Coast railroads has been the fact that while their car-building program has progressed faster than that of eastern railroads, their cars would get into other sections of the country and be utilized in those other sections instead of being returned to West Coast ownership."

Shortages hurt railroads

Car shortages cost carriers money over the short-term—but shipper-board officers, almost unanimously, also see ominous long-term effects.

Southeast board General Chairman Bates B. Bowers, for example, believes railroads "could handle a much heavier volume of traffic. . . . They would be offered much more than a modest increase in traffic if shippers could depend on getting cars of the type and quality required for loading at the time needed." As Mr. Bowers sees it, "Because of experience with intermittent shortages of rail equipment, many rail-minded shippers continue to favor motor carriers even when rail cars are available, so as to insure that motor carriers will be disposed to serve them during periods of car shortage. Shippers simply are not going to put all their eggs in one basket, if it means the possibility of cancelled orders and lost prof-



its resulting from inability to ship. In my opinion, this is a most significant factor completely overlooked by rail carriers in this matter of car supply."

Aside from the Far West—where Mr. Penttila sees the car-shortage problem as insignificant in traffic diversion—shipper-board officers tend to agree with the Southeast board's Mr. Bowers.

● **Traffic lost.** In the Southwest, says Mr. Mills, "Carriers have lost many thousands of carloads of grain because of car shortages." In Central Western territory, Mr. Wages notes, "It is quite possible that some traffic has been lost to other modes of transportation due to inability to furnish rail equipment at the proper times . . ." And in the Great Lakes region, Mr. Faller reports, "We definitely attribute a decline in the railroads' share of tonnage to car shortages which, in many cases, have forced shippers to divert from rail to other mediums of transportation." Ralph P. Wittman, general chairman of the Northwest shippers board, agrees that car shortages "definitely contribute to a decline in rail freight traffic, and there is every reason to believe motor carriers benefit from railroad car shortages."

● **Carrier efforts praised.** At the same time, however, Mr. Wittman sees "no doubt that the railroads in this area will be able to handle any modest increase in traffic by putting forth additional effort to avoid waste in transportation. . ." And he puts in a good word (as officers of the Trans-Missouri-Kansas board did recently) for the way the carriers are trying to meet shortage problems. Northwestern lines, Mr. Wittman says, "were faced with a tremendous grain movement and they handled it very well, in spite of the fact that industries receiving this grain haven't done as good a job as they might have."

Shipper-board officers also agree that the trend to specialization in car design has had good effects—but with primary benefits going to specific companies for whom the cars are built and side-effects aiding shippers generally through release of "standard" cars for general service.

Money, money, money

Railroad men may acknowledge the truth of the shipper arguments. Some chief executives—notably Great Northern President John M. Budd—speak out as sharply as any shipper on maters of car supply. But the problem, to railroads, is complicated, messy—and, thus far, insoluble. Particularly in the West, however, there's hope that better days are ahead.

Mr. Budd pins the problem to the wall: "The fundamental cause for troubles in [car supply] is lack of earning power within the industry. There has been inadequate replacement of obsolete, worn-out equipment and inadequate maintenance of cars still in the fleet.

"The tendency is to acquire expensive, specialized equipment with what money is available. This can be used intensively, and under normal circumstances the movement of such cars can be controlled by the owning line. The work-horses of the industry, such as box cars, have been neglected."

● **Per-diem solution sought.** Main hope of western roads—most of them heavy car-owning lines—lies in satisfactory solution of the current per-diem controversy.

The basic philosophy of car-ownership on which present car-service rules are predicated, Mr. Budd notes, "is that the loading line will be responsible for supplying cars to take shipments to destination. Foreign cars unloaded on each line are to be loaded back to the home line or in that direction. Any railroad loading more cars than it unloads must have substantial ownership. Any line unloading more than it loads has little if any ownership. Those who own cars want the reasonableness of rental to be set on higher standards, those who don't own cars want such rates to be at a bare-bones minimum."

The industry, Mr. Budd adds, "has found no middle-ground to solve the two problems. Is the present philosophy of ownership the best one, or should the burden fall proportionately on the roads who participate in the traffic; and how do we determine to everyone's satisfaction what is reasonable rental?"

● **Variable scale approved.** One move favored by western (and southeastern) roads is being made—adoption of variable per-diem charges in place of the fixed-rental system which has been in effect for more than 60 years. Rentals will range from $2.16 per day for cars worth $1,000 or less to $7.74 for cars worth more than $20,000 (as opposed to the $2.88-per-day rate now in effect for all cars).

Approval of a variable per-diem scale, however, won't stop high-per-diem roads from pushing legislation giving the ICC power to impose so-called incentive per-diem charges to encourage buying of freight cars. As a vice president of one western road puts it, "The proposed charges [as they now stand] are still too low . . . Need still exists for legislation which would clarify the Commission's authority to prescribe per-diem charges in relation to the adequacy of the national car fleet." Approval of the variable-rate system (by a 2-1 vote in an AAR letter ballot in February) "is a pretty good reason for enactment of clarifying legislation, rather than a reason for abandoning it."

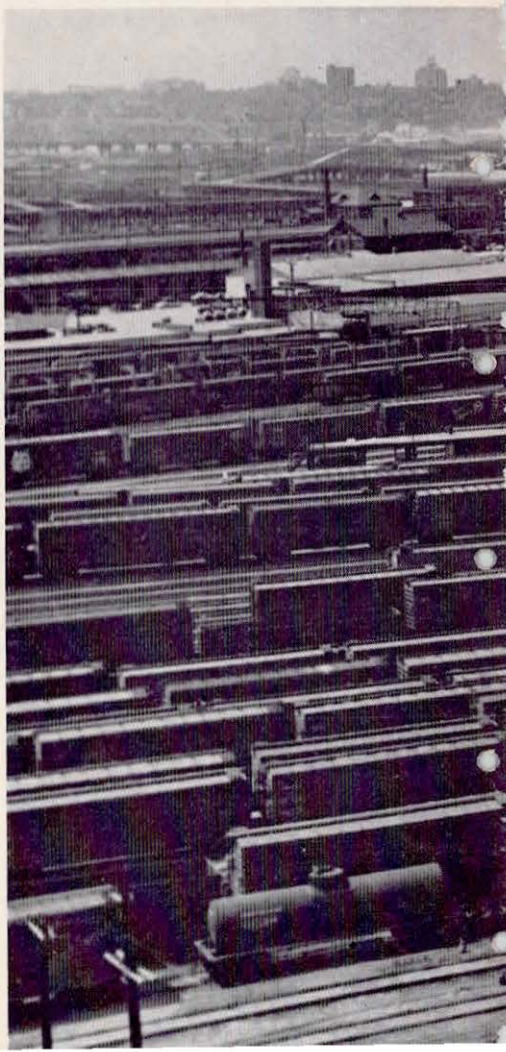
● **'Incentive' proposal made.** Incentive per-diem is now before both houses of the Congress—as S.1063, introduced by Commerce Committee Chairman Magnuson and co-sponsored by 34 other senators; and and in several similar House bills. A bill identical to 1063 was reported favorably by the Commerce Committee in 1959, but never came to a vote.

Most active champion of higher per-diem—at levels designed to put profit into car-ownership—is Eldon Martin, vice president and general counsel of the Burlington, and spokesman for the so-called Committee of Twelve, a group which includes several eastern lines in addition to the predictable heavy representation of western roads.

Washington controversy

Debate continues in three arenas—the AAR, where both the Pennsylvania and the New York Central opposed adoption of the variable per-diem proposal; the ICC, where two per-diem cases are in dispute; and the Congress, where incentive per-diem bills are once again "hot." Indications are that the Committee of Twelve—and its allies—will keep the pressure on for incentive per-diem legislation (which the ICC itself supports), despite arguments that

'WORKHORSES' of the car fleet—pr



such a law would expand regulatory powers and that it treats a subject which railroads themselves can handle.

Mr. Martin's answer to S.1063's foes: The Commission has had power in the per-diem area since 1920 and the present bill "simply provides that in the exercise of this existing power, the Commission shall 'give consideration to . . . factors affecting the adequacy of the national freight car supply' and prescribe such compensation for the use of freight cars as will 'encourage the acquisition and maintenance of a car supply adequate to meet the needs of commerce and the national defense.'" Moreover, he declares, "It is crystal-clear, unfortunately, that the railroads cannot solve this problem themselves. Certain railroads have refused to pay even the inadequate charges now in effect."

● **Opposition rapped.** As Burlington's general counsel puts it, opposition to the bill "must arise either from a selfish desire to preserve the status quo, which has been so unfortunate from a national viewpoint; or from a fear that the status quo will not stand scrutiny by an impartial tribunal, under a clarification of Congressional intent."

So far as the high-per-diem roads are concerned, adoption of some incentive plan would have three principal effects: To make it attractive for roads short of equipment to acquire new cars; to provide an incentive to repair or upgrade present bad-order cars; and to encourage return of cars to owner-lines.

The controversy promises to get hotter before it ends. Eastern lines, those with heavy terminating traffic, say there's no point in their maintaining big ownerships, that their own cars would rust on their rails while they loaded foreign cars for movement back home. Western roads say they have proof "it just ain't so," that eastern carriers' cars pile up per-diem off-line at a rate comparable to the industry average, that car-service rules "are violated every day."

Carbuilders in the middle

The middle-man in the confused car-supply situation is the commercial carbuilder—particularly the company that built his plants for volume production and now finds orders trickling in for 25 cars, or 100, or 38.

Major builders have had a tough time adjusting to the era of specialization—where big orders for so-called standard cars are, more often than not, built in railroad shops and the contract builders get the special orders. But they've done it, and the outlook for the carbuilders, large and small, is brighter now than it's been for some years.

● **'Boom' year?** By comparison to past years, 1963 will likely see a boom in car orders—for 50,000 or more cars, as against 35,000 in '62. But the upswing isn't the big story.

Builders have geared, economically, to the market—at the same time leaving enough capacity to provide for a national emergency or for a sharp traffic increase. The key (in Pullman-Standard's terminology): specialized standardization, or a basic standard with variations to suit demand.

In the early 1950s, for example, P-S —a strong advocate of standardization —introduced the PS-2 covered hopper car in three basic sizes, with one roof arrangement and one standard outlet gate.

The design, P-S recalls, "was a great success and we captured the largest share of the market, and at a profit. But then, as is often the case, we found our leadership dwindling due to design innovations being offered by competitors in a changing market."

● **'One basic design.'** Pullman-Standard's answer—development of the PS-2-CD. To railroads, P-S notes, the new line "offers one basic design with easy modification to different jobs. To the

pally box cars—are suffering from neglect, some top railroad officers believe, because of purchases of specialized cars.

shipper, it offers almost any cubic capacity desired. Roof variations to suit loading conditions are available. Various outlet arrangements are offered. . . . It is obvious that one car doesn't do all these things, but rather one basic design can be built to suit varying demands over a nucleus of tooling."

P-S is far from alone in adopting this theory of carbuilding. ACF stresses design "with an element of adaptability. This enables us to build a basic car and, with comparatively minor changes, to tailor the car for a variety of uses." One example: the "bolt-on" outlet frame recently developed for ACF's Center Flow covered hopper car. Gates designed for specific ladings can be bolted onto the frame and the car is then ready to meet the requirements of a given service.

• **Builders find a way.** Like P-S and ACF, a third major carbuilder believes peak-and-valley car ordering no longer has the significance it once had—or at least that the builders have now found a way around it. This company sees immediate answers in building cars for stock for subsequent sales, and in accumulating small-lot orders for construction in larger groups. And as a possibility for the future: specialization among builders, among various types of cars.

Manufacturers recognize that traffic requirements will demand increasing emphasis on special equipment. As General American points out, "Traffic gains are being earned by the railroads through the simple, direct method of showing important, measurable gains for shippers and their customers. The work of carbuilders, of course, has played a major part in making and holding these gains."

Most builders agree on the market potential—35,000 to 40,000 cars each year in the near future and total orders in the 40,000-45,000 range about 1970. They see fluctuations—but nothing like the variations of past years, when new-car installations ranged from a high of 82,427 in 1957 to a mere 25,633 in 1961.

• **Compromise on capacity.** By and large, builders are gearing to these figures—while leaving excess capacity on a compromise scale: not enough to put drains on corporate stability but sufficient for expansion in the event of a national emergency. If orders increase sharply, P-S says, "There exists enough plant capacity to at least double present freight-car output." ACF has retained enough capacity "to handle freight-car volume on a one-shift basis equal to any volume that we have experienced in any of the last 10 years and we can adjust to demands that at peak times may exceed our forecasts of future business."

Cars: What types?

Without doubt, the trend over the past 15 years—especially since the mid-1950s—has been to high-capacity, specialized equipment, at the expense of standard cars. But the general-service car-supply situation has also been complicated by two other factors: the rapid rate at which cars are being retired and the continuing high bad-order ratio. Railroads scrapped about 88,000 cars last year and have retired more than 330,000 cars in the past four years. Many of these units were general-service cars—and installations of new units haven't come near matching the retirement rate. Meantime, the industry bad-order ratio still hovers around 8%—and of the 127,064 cars awaiting repairs in one recent month, more than 50,000 were box cars, almost 68,000 were open-tops.

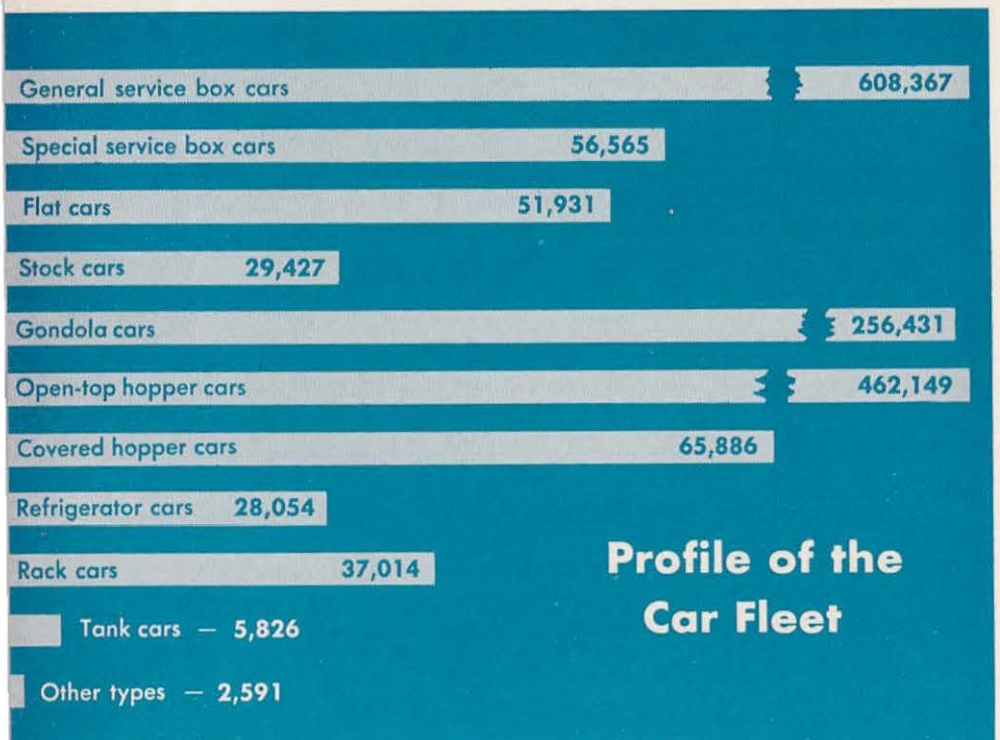
• **Concern grows.** Railroads, shippers and carbuilders alike are showing a growing concern over these figures. A vice president of a major western road not long ago suggested one approach: "For years we . . . have thought we should standardize on cars, particularly on common-purpose cars, not allowing each [road] to decide on the type of equipment that would be used. I have always thought that our present practice is a wasteful one. Why do we not, for instance, agree on a low-cost car for the grain business, and then either make them in our own shops or in contract shops, all exactly to the same design? We might even find a carbuilder on this type of car who would be glad to build and stockpile them." At about the same time, an officer of another grain-hauling road—one which barely missed being stung on car supply last autumn—expressed interest in a form of grain-car pool, one which might perhaps be owned by many roads, one which would use inexpensive cars that would move efficiently with the harvest.

Interest in pools, however, apparently hit a peak several years ago—with the Symes Plan and the Relco Plan—and has tailed off since, though GN's Mr. Budd notes that "Pools of various kinds . . . are again being looked at."

• **Leasing: Bright future?** Leasing is another story. Companies such as General American, Union Tank Car, North American Car, Shippers Car Line (ACF) and Transport Leasing (Pullman Inc.) are finding new potential in equipment leases. Major carbuilders—including one which does not now offer a lease arrangement—see even greater opportunities ahead.

As one builder comments, "Potential for those builders now engaged in leasing appears good. The trend toward highly specialized, expensive equipment in relatively small quantities provides an opportunity in leasing as a result, in some cases, of railroads' inability or reluctance to invest in this type of car." ACF points out another plus: "It is the carbuilder who designed, engineered and manufactured the cars and is, therefore, in the best position to perform the maintenance and repair work required to keep a fleet of leased cars in service."

• **Utilization improves.** Leasing, or



pooling, often carries another built-in positive factor—shared, generally, with operation of special cars of any sort: better utilization. Piggyback and auto-rack cars in the Trailer Train pool, for example, are seldom standing idle. New York Central noted recently that its Flexi-Van cars are earning about 10 times as much as its box cars, on a per-car, per-month basis—and that empty car-mileage averages only 9% for Flexi-Van, against 43% for box cars. Equally significant, however, is Thrall Car's comment on "one-way" cars—no longer in the necessary-evil class, because "It is frequently true that a special car confined to one-way hauls, by virtue of being in almost continuous service with profitable loads, can produce a far greater return on investment than a two-way car which is burdened with idle time while return loads are being sought."

Changes influence buying

For 1963, car orders will head upward. Most builders—among them P-S, ACF, Bethlehem Steel, Magor, General American, Greenville Steel Car, Ortner Freight Car, Union Tank Car—look for a good year, either on the basis of orders on the books now or on short-term market estimates.

Liberalized depreciation guidelines and the 7% investment tax credit have had some effect in stepping up the tempo of car-buying—though, thus far, major builders are more cautious than railroad men appear to be in assessing the long-run value of the depreciation and investment credit benefits. One builder states it bluntly: Improved guidelines and the 7% credit "have not increased sales substantially, nor are they expected to under present conditions . . . Roads who have the greatest need for new equipment are generally losing money and are, therefore, not affected by the new rulings. On the other hand, those roads which are running profitable operations have been keeping their fleets in respectable condition. They purchase new equipment when it is needed, as it is needed. There are, of course, some cases where the new tax rulings have made the difference between buying new cars or deferring the purchase. It's difficult to determine, in these cases, whether the cars would not have been purchased or if they would have been purchased at a later date—which, in essence, means not an increase in the number of cars but merely a change in the timing of the purchase."

● **Per diem and regulation.** Two other factors may, over the long haul, have a greater effect on the type and number of cars built: the upcoming change in per-diem rates; and possible Congressional action in the regulatory field.

Backers of high per diem are confident that the variable scale will result in an upgrading of the car fleet, in quantity and in quality—particularly if the ICC's per diem powers are firmed up. Builders seem inclined to share the view. As Pullman-Standard sees it, "One factor which could significantly stimulate new-car orders would be a change in the per-diem rates. Under the proposed rate revision, ownership of new equipment would be economically justified. Under the present system, if a $16,000 car were to remain constantly off-line, it would take the owning road well over 15 years to recoup its original investment through per-diem charges, not including the cost of financing, ownership and repairs. But the government allows freight cars to be depreciated over a 14-year period. This means it is possible to have daily depreciation exceed per diem. An increase in per-diem rates should provide the economic incentive to purchase new equipment which is susceptible to long periods of off-line service."

● **Regulation affects decisions.** A bit more subtle is the theory of economic regulation's impact on car-buying decisions. North American Car's director of planning, Aaron J. Gellman, notes that "In a large number of cases where equipment investment decisions are to be made, managers are profoundly influenced by the amount and character of economic regulation to which their industry and firm is subjected from without." But the typical regulatory commissioner or board member, Mr. Gellman declares, "does not even remotely appreciate the consequences of his acts in terms of the technological state of the industry he is regulating or in terms of the equipment-investment decisions of carrier management." At the same time, "Carrier management becomes conditioned to long-standing regulatory-agency attitudes and shys away from equipment-investment decisions which also require new departures in marketing or rate-making. That is, equipment selection all too often becomes a game—more deadly than playful—in which regulator and regulated alike, bound by tradition, try to differentiate the present from the past and most often wind up carrying on in a manner notable largely because it is so close to the way in which things have always been done."

Car supply: ? After?

Most railroad men and shippers agree that better utilization is the key to making the most of whatever car fleet exists. But utilization problems can make the head throb. This is an officer of a western granger road talking: "So we loaded up with cars, and we loaded the cars, and we moved them toward the terminal markets. Six and seven days a week, we worked. The terminal elevators worked five days a week unloading. We ended up paying per diem on storage-bins-on-wheels. At one time I guess we had every siding on the line pretty well plugged."

● **How about special cars?** Then there's this car-utilization situation: "Assume the traffic department encourages the buying of special cars, or the assigning of cars to a specific account. Who watches these cars to check on utilization, traffic or operating? Does the car distributor have enough men to do the job when more and more cars are assigned? Does the operating department have authority to pull back assigned cars that aren't moving? Or does the traffic department have authority to say they have to stay in special service?"

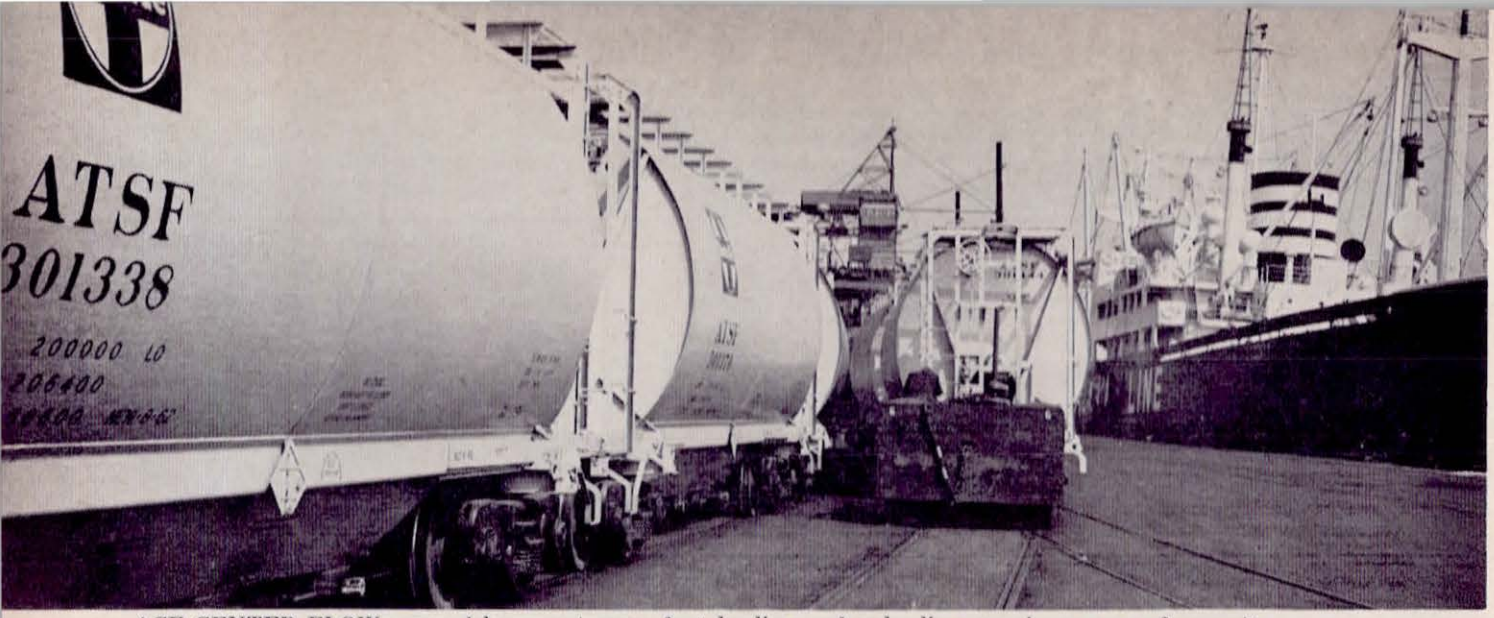
The conclusions reached by this observer: Requirements of distribution and transportation have suddenly become highly sophisticated—and the approach to car supply hasn't kept up to the pace.

Obsolescence is another factor—most graphically illustrated by the brief popularity of the 75-foot piggyback flat car, which lasted until 40-foot trailers grabbed the big share of the motor-carrier market (and as one carbuilder observes, "You can't get two 40-foot trailers on a 75-foot flat car with any degree of efficiency"). Demand for 85-foot (and longer) flat cars developed overnight—but now many of these cars face at least partial obsolescence because 8½-foot trailer widths "are just around the corner, and it is no easier to get an 8½-foot-wide trailer between 8-foot, 2-inch rub rails than it is to get 80 feet of trailer length on a 75-foot car."

● **The big problem.** Thus, car supply emerges as a problem related to almost every other problem in railroading today—the availability of money, per-diem controversies, specialization vs purchase of more standard cars, commercial builders vs company shops, technological obsolescence, shipper ownership of equipment, buying vs leasing vs pooling, greater freedom from economic regulation (particularly in rate-making), progress of the merger movement, development of more efficient car-service standards, streamlining of individual roads' car-supply handling, supplier diversification, cooperation among railroads and between carriers and customers in the interest of better car utilization—and on and on.

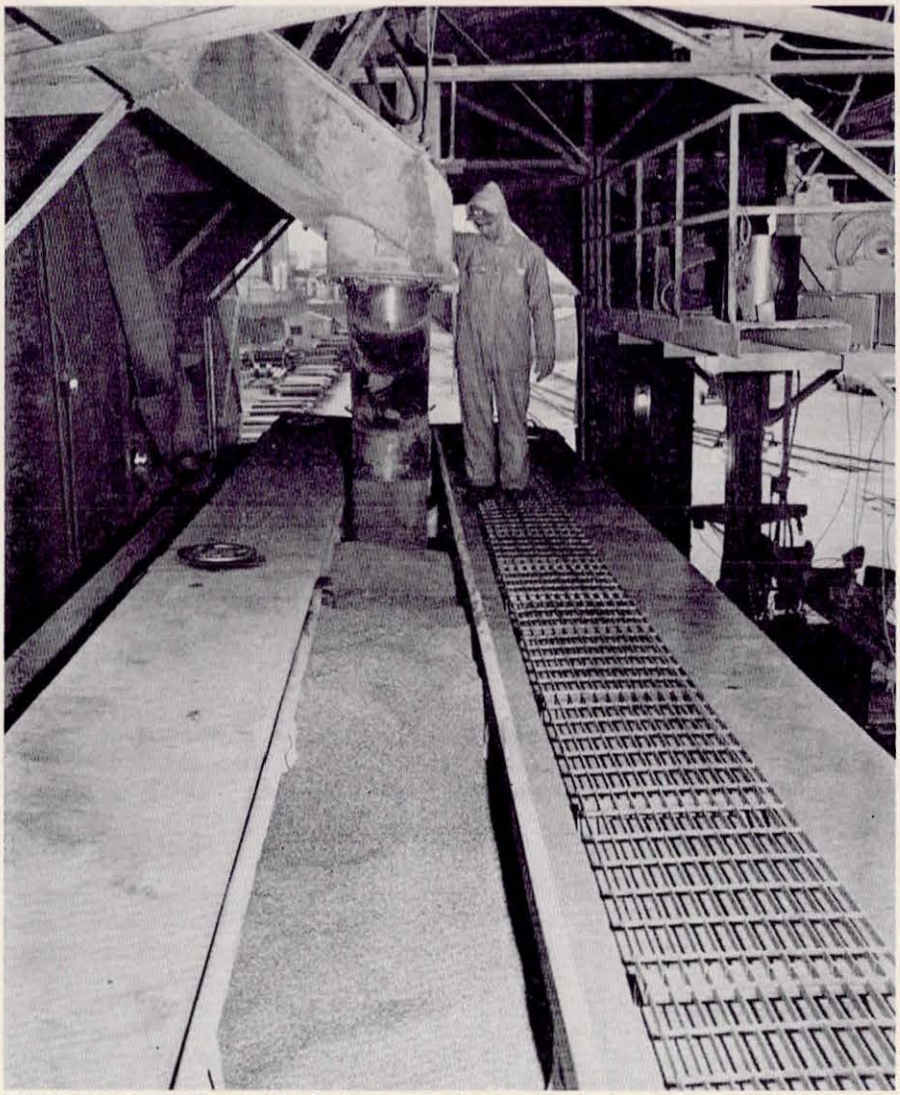
And the most encouraging sign that the problem will be solved, eventually: the new vigor with which it's being attacked.

TOMORROW'S CARS TODAY ►



ACF CENTER FLOW covered hopper stresses fast loading and unloading, maximum use of capacity.

Freight-Car Designs of



TROUGH-HATCH car by Pullman-Standard has single, 40-foot hatch.

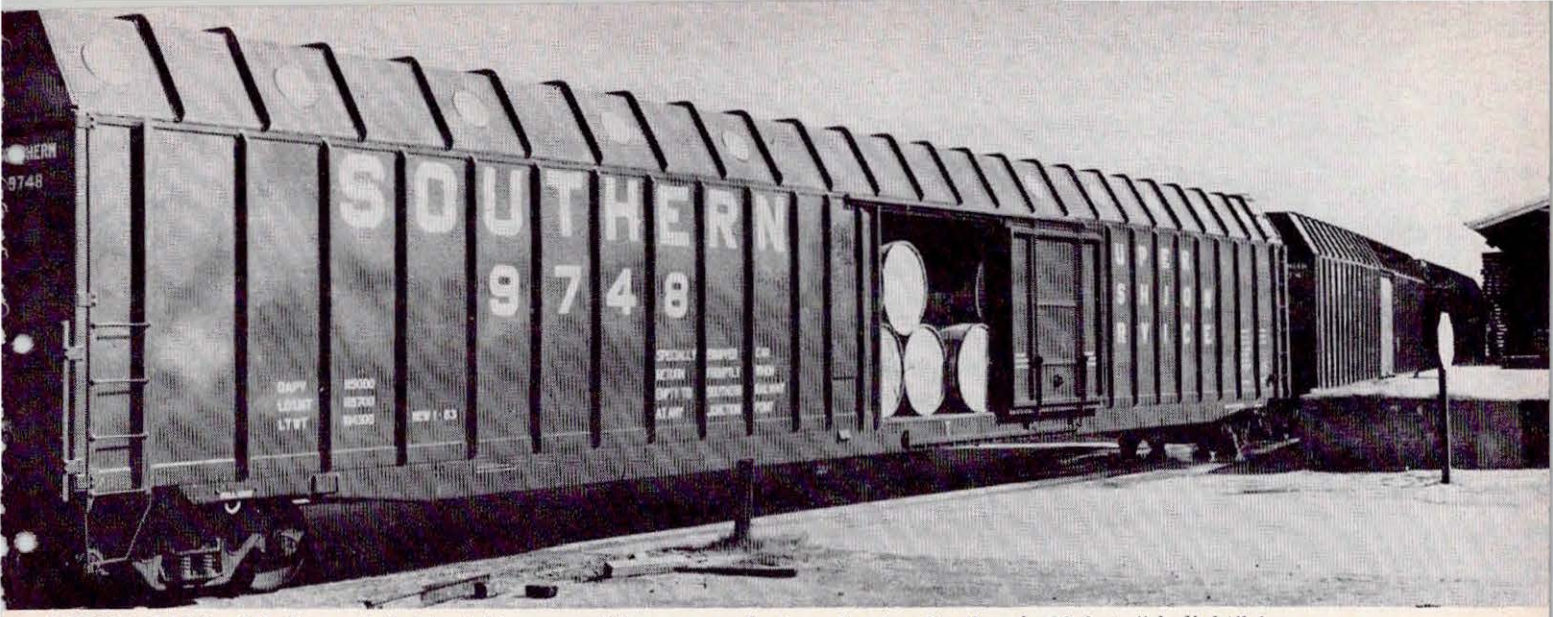
King-size cars have 'arrived' —and builders are working on units of still higher capacity.

"Capacity" is the key word in freight-car design today—and much of the research now going on is aimed at breaking down technological barriers to still further capacity increases.

Last year's car orders pointed out clearly how high-capacity equipment, plus incentive rate-making, can work to boost railroad revenues by bringing out the inherent heavy-hauling capabilities of the industry. More than half the hopper cars, covered hoppers and tank cars purchased were 100-ton capacity. More than 80% of the box cars ordered were 70-ton, and more than a few had a 100-ton limit. All but 400 of the refrigerator cars ordered were 70-ton capacity—and the odd 400 were 100-ton cars.

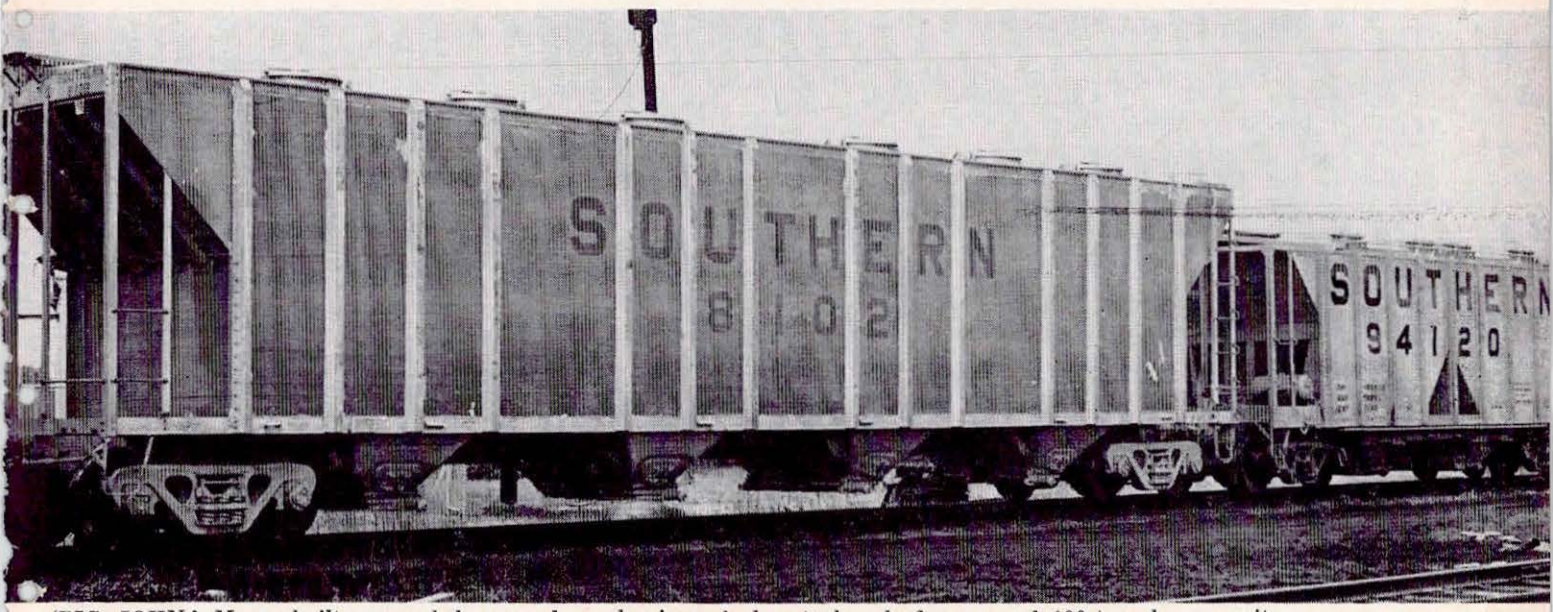
● **100-ton plateau.** For the moment, design-for-capacity may have hit a plateau at 100 tons— but more than a few roads yearn for even greater hauling capacity in hopper cars (and AAR Research has come up with a 200-ton open-top using two 100-ton carbodies articulated with a span bolster over a pair of conventional trucks at the center of the unit).

Capacity over 100 tons in standard car designs will apparently have to wait for development of a less-expensive six-wheel truck—but at least one supplier is working on such a unit, so the next capacity breakthrough may be



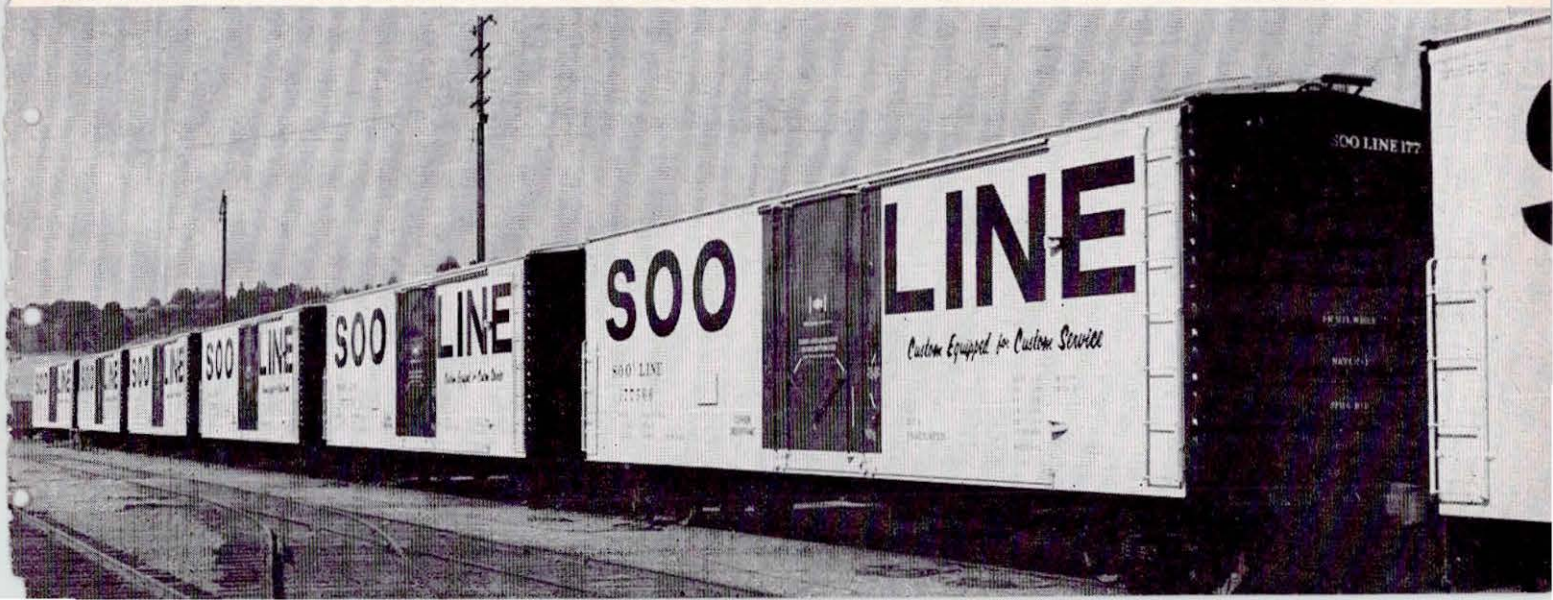
HIGH LOADS of bulky and lightweight commodities are made to order for Southern's 92-foot "skylight" box cars.

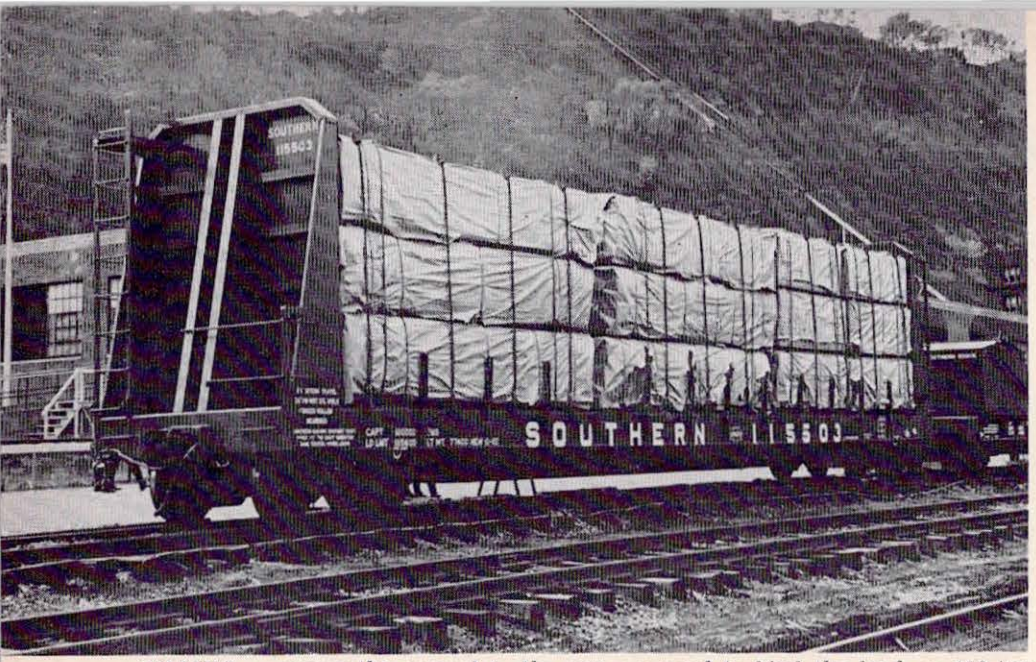
Tomorrow: Here Today



'BIG JOHN,' Magor-built covered hopper, has aluminum body, steel underframe—and 100-ton-plus capacity.

SOO LINE'S new insulated box cars, built by Pacific Car & Foundry, have cushion underframe and DF equipment.





CHAINS, permanently secured to the car, are used to bind the load on 100-ton Southern bulkhead flat cars from Thrall. Ease of loading, unloading is stressed.

100-TON bottom- and side-dump Southern Pacific open-top hopper cars, with 2,100-cubic-foot capacity, were built by Greenville Steel Car.

MOST SPECTACULAR special cars may be the auto-racks—this one a piggyback flat built by Bethlehem Steel for TTX and equipped with a Wabash rack.

accomplished in fairly short order.

Meanwhile, railroads and suppliers are pushing research in two other directions—provision of greater transport flexibility and greater protection for lading.

● **Progress made.** Gains are being made, though slowly, in the march toward standards for containerization which would open the way for greater coordination of rail, motor, water and air transportation.

At the same time, increasing emphasis is being put on giving freight a softer ride. With loss-and-damage claim payments still climbing, railroads are boosting their investment in cars equipped with integral cushioning devices and with interior lading protection equipment.

More than 5,000 cars with hydraulic cushioning were ordered in '62—and one major carbuilder, noting that more money may be available for railroad capital spending, believes that while this may mean "a slight increase in freight-car orders . . . probably a good portion of it will be used for 'extras' such as roller bearings, cushion underframes, load dividers and similar devices."

● **Trouble for builders.** All these factors—and especially the trend to small-lot orders for special cars—are creating new strains on the carbuilders (particularly the large ones), but thus far manufacturers have been equal to the challenge.

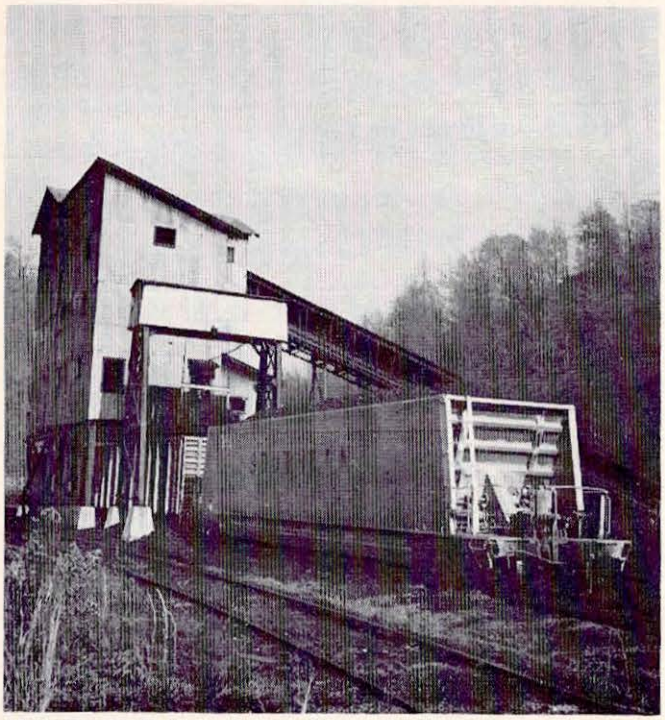
Among the problems: High tooling charges; lost production time in changeovers; more competition from smaller shops; higher research and development and engineering costs; greater demand on personnel, including engineers, salesmen and production workers.

One example of how the difficulties are being met: Pullman-Standard's theory-plus-practice approach. Theory means charting growth patterns in industries served by railroads, then estimating what tonnage railroads will get, how fast they can move it and in what types of cars. That's 5-10-year planning. As an immediate step, P-S is studying 14 industry groups which railroads can and do serve. From those 14, the builder selects "the largest and most progressive companies," and then tries to:

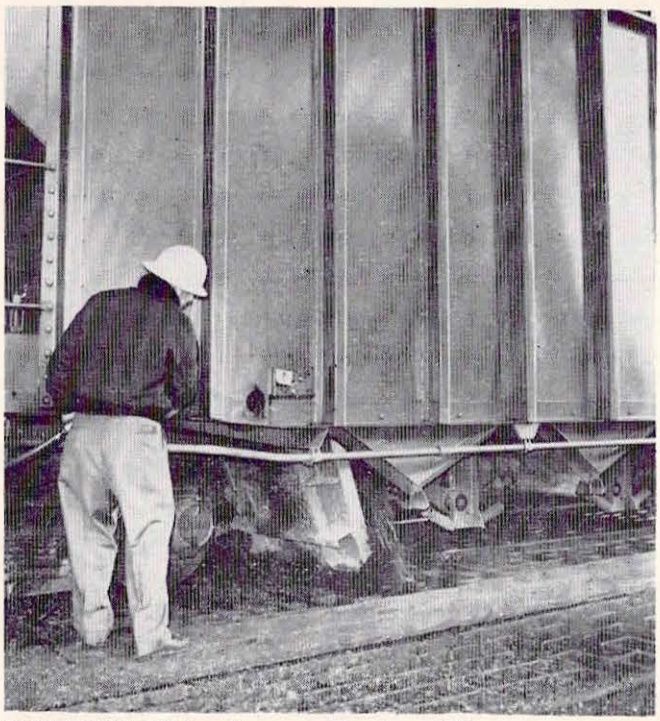
- Find their needs in car design;
- Sort out basic construction standards from required alternatives that make the cars "special";
- Design a basic product which will minimize costs and provide a sound base upon which to make variations;
- Acquaint shippers with railroad-carbuilder problems—and sell the idea of a basic standard with variations to suit.

GENERAL AMERICAN tank car, in Phillips Petroleum livery, packs 30,300-gallon capacity in 66 feet of length.

UNION TANK "lox" car has 15,000-gallon capacity, will haul liquid oxygen at almost 300 degrees below zero.



MAGOR built "big dropper" for Southern.



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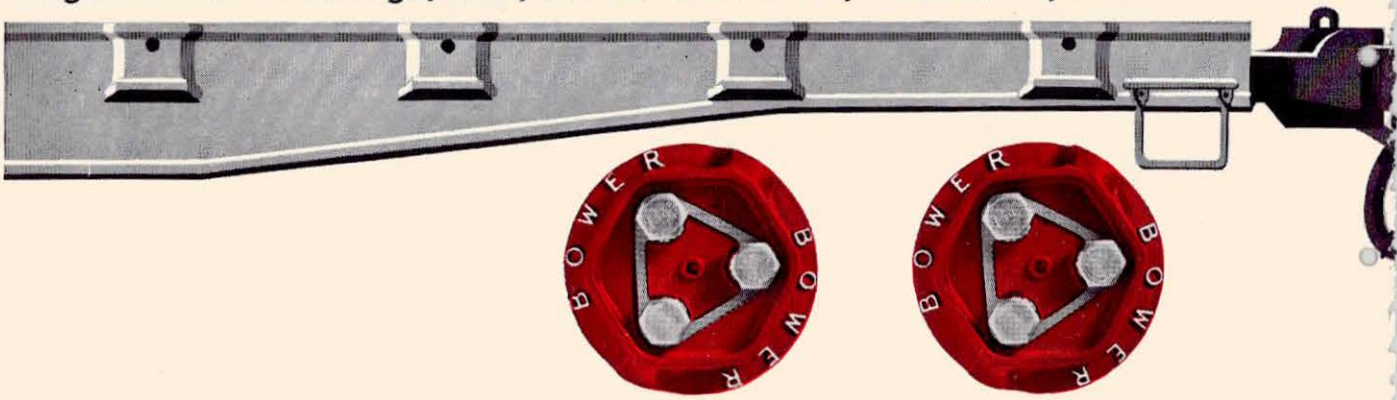
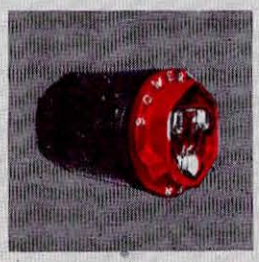


BOWER ROLLER BEARINGS

FEDERAL-MOGUL-BOWER BEARINGS INC



R.R. Special No. 50: $89.50. With bracelet $100. Prices plus tax.

The history of Hamilton accuracy in railroad timekeeping goes back more than 70 years to the days when railroad men eagerly bought up just about every Hamilton made. In fact, the very first Hamilton sold (in 1893) was passing time inspection by a wide margin when its owner replaced it with a Hamilton 992 in 1934.

Now, in the tradition of service to railroad men, Hamilton has created a modern Railroad Special, the 505 Electric. Fully approved by leading railroad time inspectors. No winding. Runs up to two years on a tiny, replaceable energy cell. Sets easily to the exact second. The 505 Electric movement can't get out of adjustment. It has only 12 moving parts. Has dress-watch styling with a special easy-to-read dial. Built to last for generations, just like past Hamiltons. Ask your Time Inspector or jeweler to show you the Hamilton 505 Electric Railroad Special. Hamilton Watch Company, Lancaster, Penna., U.S.A.

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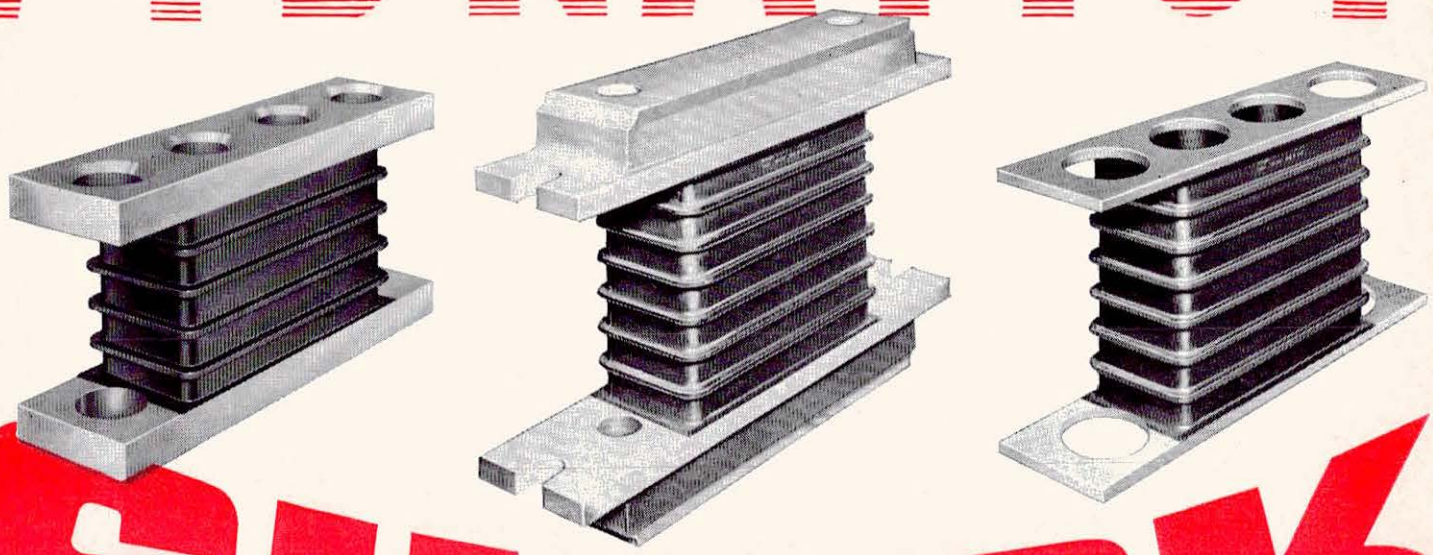

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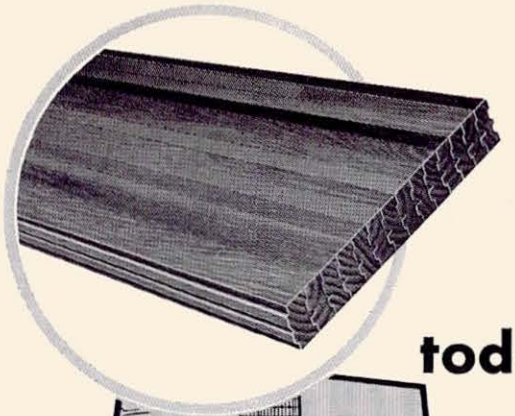

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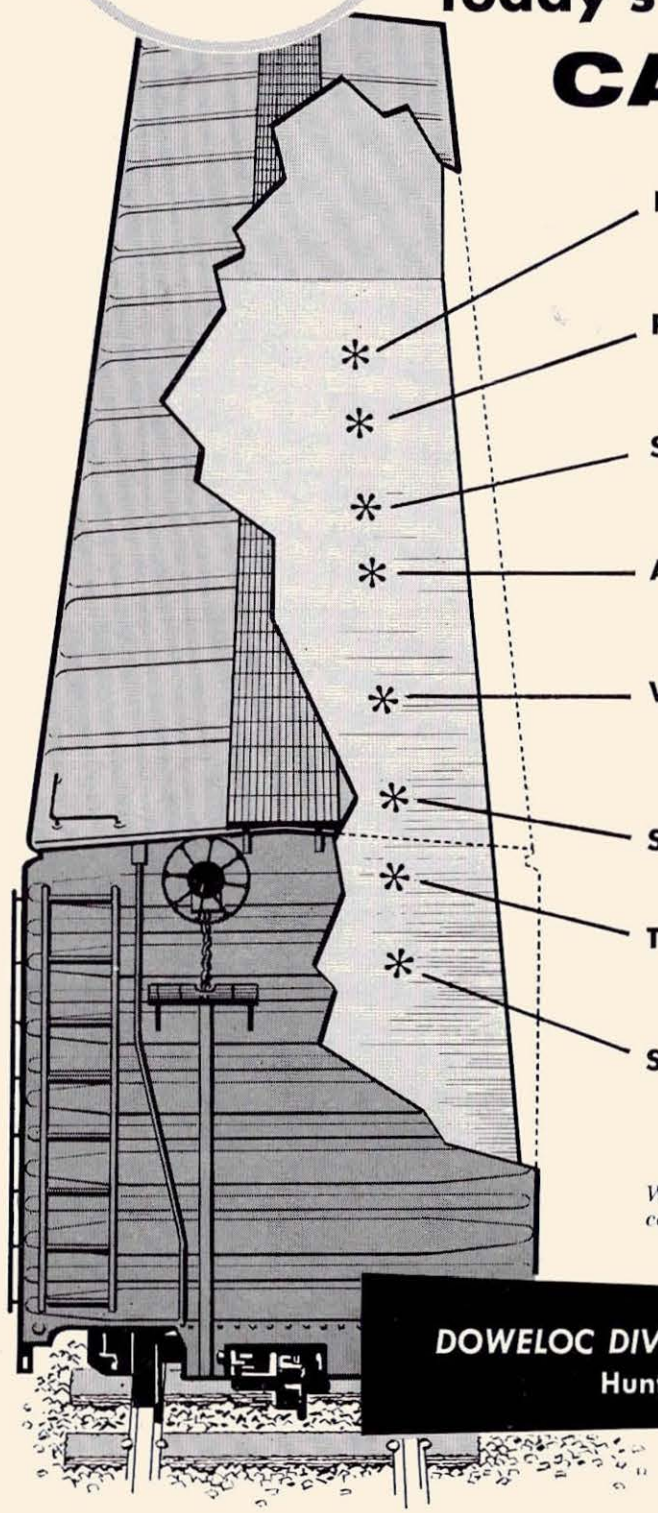

Long life under hard use — Because of laminated, vertical grain, hardwood construction, Doweloc panels stand up under many long years of hard service.

Practical dimensions — No waste or wood mill work with Doweloc. Panels are custom manufactured to exact car specifications . . . with thickness of 1¼″ through 2⅜″ . . . up to 12″ wide.

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Saves labor because it is manufactured to exact dimensions (tailored to your print) . . . quick and easy to install, Doweloc saves up to 50% of costly installation time. No sawing or fitting.

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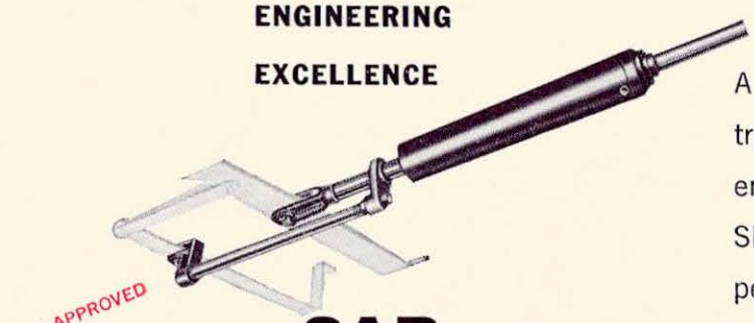

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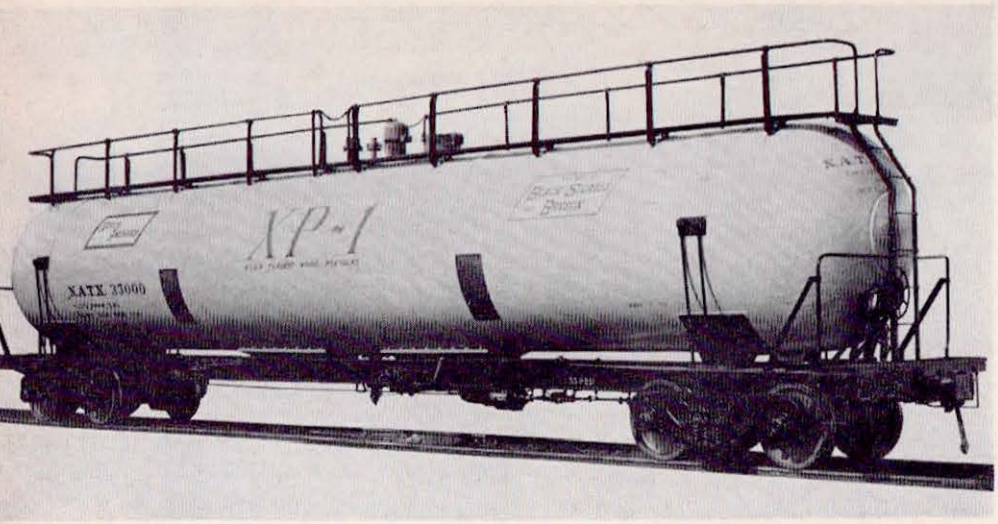
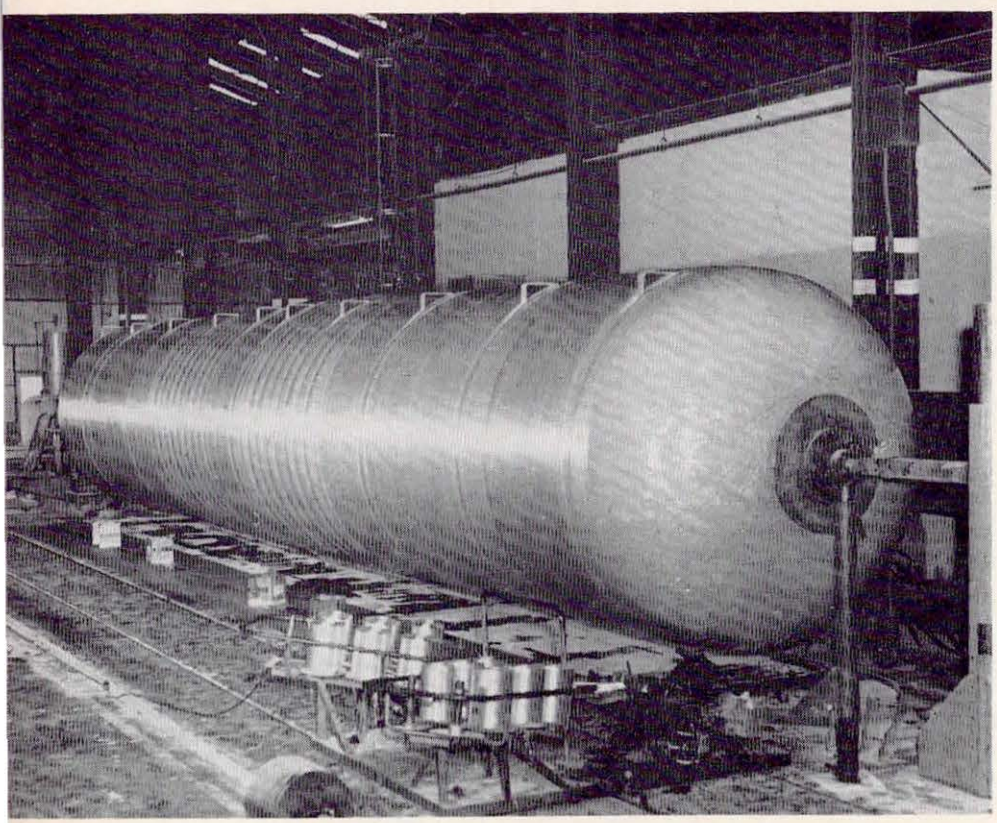


NORTH AMERICAN's filament-wound glass tank, claimed to be first application for railroad service, reduces light weight, and is corrosion resistant.

Plastic Tank Car Increases Payload

Missile-building techniques, used in producing a 22,500-gallon glass-plastic tank that is corrosion resistant, result in a tank car nine tons lighter than a comparable steel one.



POXYGLAS TANK has been filament wound and is ready for baking in oven at 275 deg F, which transforms liquid epoxy to a solid and bonds glass together.

North American Car Corp.'s new XP-1 car has a tank shell of filament-wound, glass-reinforced plastic. The 22,500-gallon-capacity tank is nine tons lighter than a comparable steel tank. Lightweight of the car is 52,000 pounds.

The car is scheduled to be displayed in Chicago's LaSalle Street station on April 9 and 10. Subsequently, it will go to Coffeyville, Kan., for further tests and then will be placed in regular freight service on the Southern Pacific as a captive car. After 30 to 60 days of captive service, the car—if all goes well—will be submitted to the ICC and the AAR for their approval.

• **High payload.** XP-1 was assembled by North American Car. The tank was wound of Poxyglas by Black, Sivalls & Bryson, Inc., of Kansas City, Mo., along the same principles used by the firm to build stages of the Minuteman and Polaris missiles. It is claimed that this type of construction gives an extremely high payload-to-gross ratio, maximum resistance to corrosion, and makes the car competitive in cost.

Here's how the presidents of both companies—North American's E.C.R. Lasher and BS&B's K. W. Lineberry—say they came to apply space-age technology to a railroad freight car:

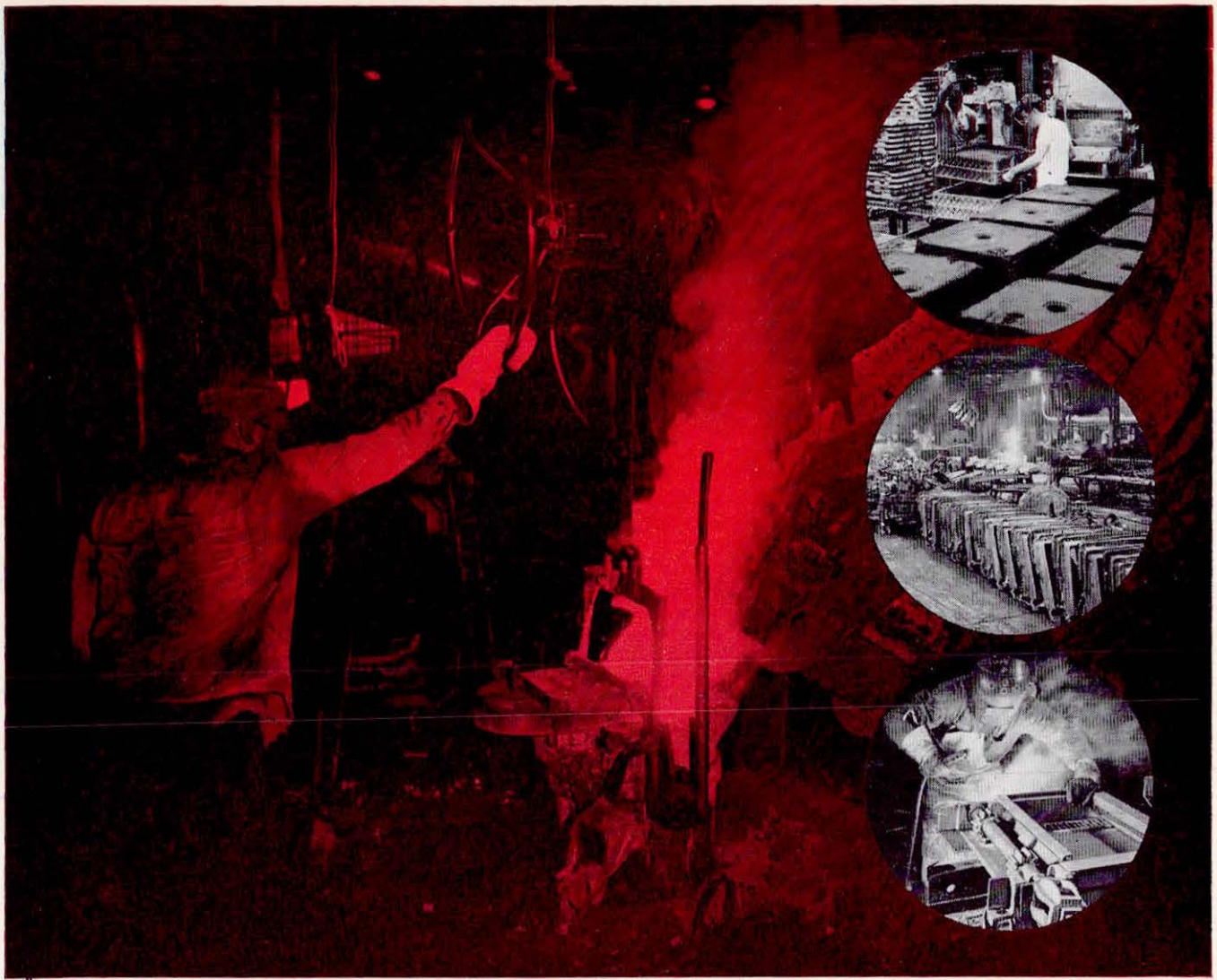
"Three years ago," said Mr. Lasher, "we saw the need for a larger, lighter tank car for heavy and corrosive commodities. We recognized that sheer weight of commodity could seriously limit the size of possible tank cars. Yet, the railroads' new incentive rates were based on the use of larger cars. We spent nearly two years finding somebody to build us a plastic tank."

Mr. Lineberry explained that "One of our engineers heard about North American's wanting a glass pressure vessel, and we felt if we could use filament-wound bodies for missiles, we could also make them for railroad use."

Poxyglas is a new corrosion-resistant, high strength, lightweight glass-resin material. The difference between it and reinforced plastic is the method of manufacture. The Poxyglas method employs a patented filament winding technique. This consists of impregnating continuous strands of extremely small, high strength, glass filaments (70% by weight) with liquid epoxy resin (30% by weight), winding them under slight tension over a revolving steel mandrel in a precisely controlled pattern.

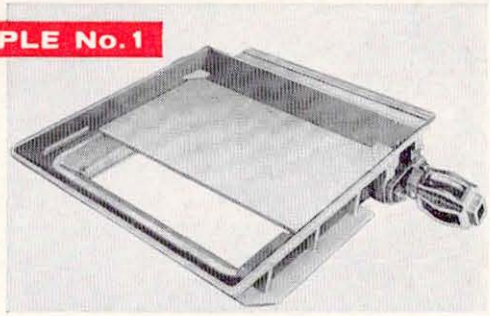
• **Oven baked.** After the desired wall thickness is reached (approximately ⅜ of an inch on the XP-1), the tank is baked in an oven at about 275 deg F while still on the mandrel. This curing transforms the liquid epoxy

(*Continued on page 42*)



Bull ladle with 6 tons of molten steel, having technically controlled chemistry and temperature, fills pouring ladle for casting Wine appliances. Photos show important molding operation, hopper door frames being processed, and closely supervised assembly. Numerous product advantages and special services are passed on to the customer because Wine railway appliances are one responsibility by Wine from start to finish.

EXAMPLE No. 1



NEW *Direct Drive* **DISCHARGE GATE . . .** *Simplified operation. Assembled. Ready to attach to chute. Sizes for 8" and 11" rail clearance. With or without integral door support brackets. Pinions welded to shaft for true alignment. Bolted construction for easy maintenance. Rugged. Accurate. Money-saving.*

Quality Controlled

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reduce Installation, Operating, Maintenance costs

Wine appliances are easy to install. Simplified parts design, modern casting techniques and jig inspection are your guarantee. Top performance and years of virtually maintenance-free operation are added dividends. So, to build or repair the car, to carry freight without loss or damage, to make loading and unloading fast, easy and safe, to keep car maintenance to a minimum, to stop expensive multi-source buying and excessive parts inventory problems, always specify Wine . . . *start-to-finish manufacturers of over fifteen different quality-controlled railway appliances.*

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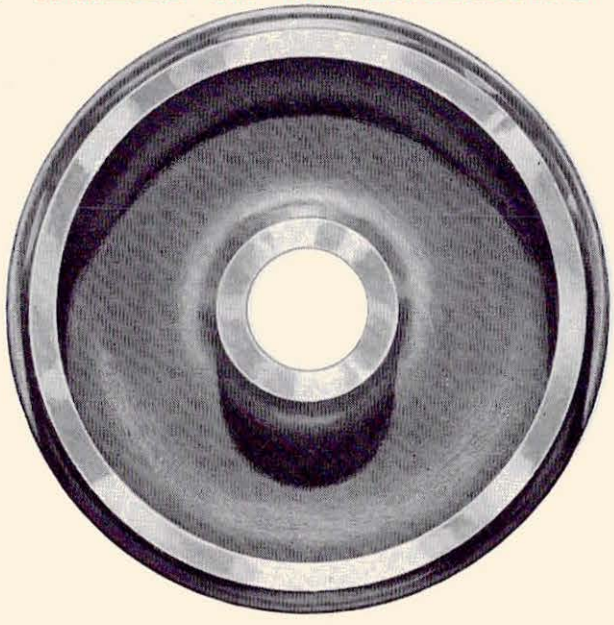
THE TOUGHEST ANIMAL IN AFRICA IS THE CAPE BUFFALO

THE TOUGHEST WHEEL IN RAILROADING IS THE GRIFFIN



A charging Cape Buffalo — 1200 pounds of bone, horn, and hard muscle—can absorb 14 shots from a .375 magnum without stopping. He's tough . . . and he's respected. The Griffin® EQS Cast Steel Wheel is equally as tough, and probably even *more* respected.

The flange and rim of the EQS® Wheel are the most durable in modern railroading. Long, sweeping fillets under flange and rim reinforce this great strength still more. No machining is required, so the longest-wearing metal stays on the tread . . . *out* of the scrap bin. That's why the EQS can take a real beating on the tracks . . . That's why it gives longer service life than any other wheel.

Griffin Wheels are cast in balance to stay in balance. Tolerances are accurate to 20-thousandths of an inch. There are only two tape sizes . . . which simplifies wheel inventory problems. Next time specify Griffin.

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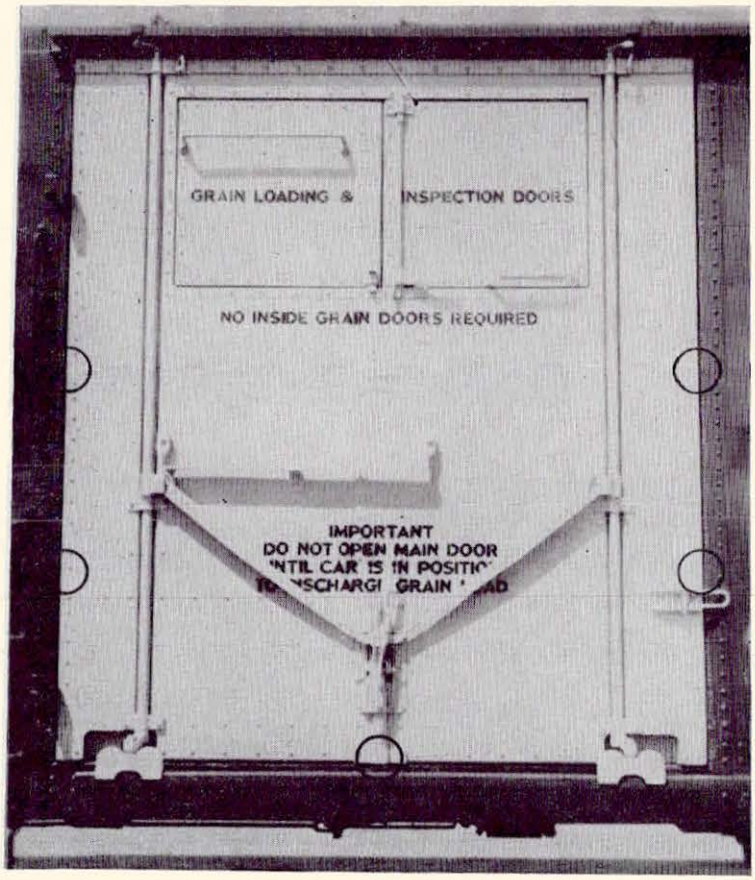
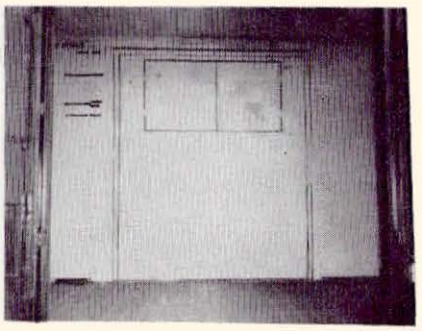
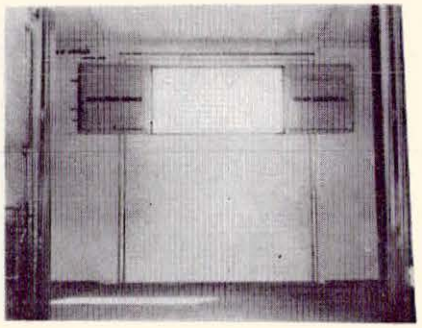




INSIDE OF CAR SHOWING
ACCESS DOOR CLOSED



INSIDE OF CAR SHOWING
ACCESS DOOR OPEN

YOUNGSTOWN'S NEW SLIDING FLUSH DOOR WITH ACCESS DOOR PROVIDES A SMOOTH, FLUSH, CONTINUOUS LINING.
FIVE POINT LOCKING TO MEET STRESS OF SHIFTING LOADS

- **NO GRAIN LOSS IN TRANSIT**
- **NO GRAIN DOORS NEEDED**
- **NO LINING DAMAGE FROM NAILING**

THE YOUNGSTOWN STEEL DOOR CO.

CAMEL SALES COMPANY • *CAMEL COMPANY LIMITED*
Cleveland • Chicago • Youngstown • Hammond

Cars made with Reynolds Aluminum . . .

. . . carry coal with 40% more payload

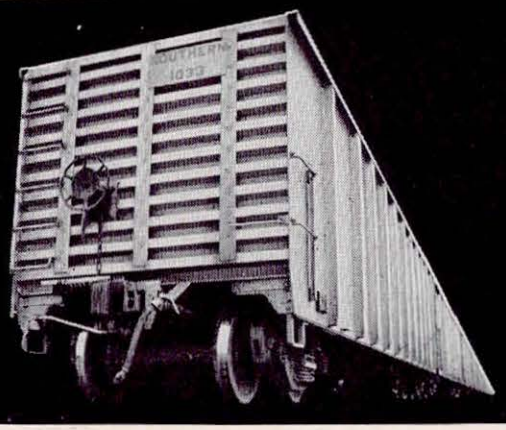
. . . . . carry chemicals that steel can't handle economically

. . . carry corn at lower costs

Why Aluminum Cars?

1. Aluminum cars are lighter, easier to handle, and offer bigger payload capacities.
2. Aluminum cars need little or no maintenance, will never rust.
3. Aluminum cars haul corrosive cargos that can't be hauled economically in steel cars; they reduce cargo contamination, increase cargo protection.
4. Aluminum cars offer no special fabrication problems.

Southern Railway's gondolas made with Reynolds Aluminum haul 100 to 110 tons of coal each . . . as compared to the conventional steel car's 70 ton capacity. And because they're aluminum, these gondolas resist abrasion, are clean dumping, need no protective maintenance.



GATX tank cars made with Reynolds Aluminum are the practical solution to hauling highly corrosive ammonium nitrate fertilizer for Armour & Co. Aluminum is immune to this corrosion. Steel tank cars need expensive protective coatings, and stainless steel cars cost more than aluminum. Aluminum also protects chemical cargos with its high reflectivity, high thermal conductivity, and non-sparking properties.

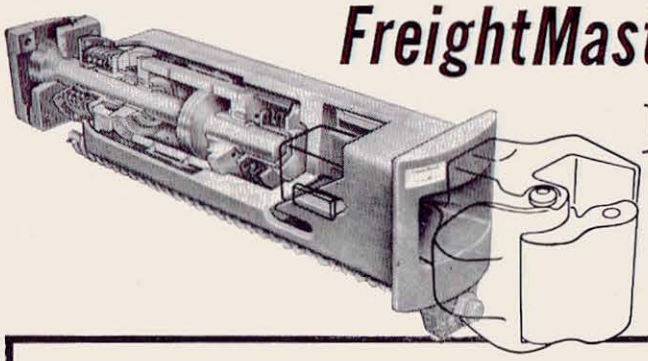
Southern's "Big John" hopper cars made with Reynolds Aluminum haul 100 tons (and more) of corn each. This is twice the capacity of a conventional steel car . . . and enables Southern to offer greatly reduced freight rates for hauling grain. The resulting savings will be of ultimate benefit to everybody concerned.

Versatile aluminum is also used in car doors, flooring, roofs, inner-liners, containers, bulkheads, and crossmembers—to cut deadweight and maintenance costs, and increase payload capacity.

For any railroad application, Reynolds offers design and technical assistance . . . plus the highest quality aluminum. Get information from your local Reynolds office, or write direct to *Reynolds Metals Company, P. O. Box 2346-TM, Richmond 18, Virginia.*

Watch Reynolds exciting TV program on NBC: The Dick Powell **Reynolds Aluminum Theatre** Tuesday nights.

REYNOLDS ALUMINUM



FreightMaster Versatility... Is A Matter Of Record

HERE ARE A FEW EXAMPLES OF THE WIDE VARIETY OF ROLLING STOCK EQUIPPED WITH FREIGHTMASTERS INSTALLED BY 20 MAJOR CARRIERS:

Type of Car	Capacity and Length	Type of Service	Car Construction Notes
Existing Box Car	50-T; 50'6"	Newsprint	....
New Box Car	70-T; 50'9"	Glass	Equipped with Load Restrainer
Existing Box Car	50-T; 50'6"	Auto Engines and Parts	Equipped with engine and parts racks
New Covered Gondola	70-T; 52'1"	Tin Plate	Uses movable bulkheads
New Box Car	50-T; 50'6"	General Merchandise	....
Existing Flat Car	70-T; 53'6"	Truck Frames	Fabricated Center Sill
New Insulated Box Car	70-T; 50'1"	Food Products	Equipped with Load Restrainers
Existing Box Car	50-T; 40'6"	Newsprint	....
Existing Flat with Bi-Level Rack	85'	Farm Tractors and Implements Trucks and Boats	Rack attached solidly to car structure
Existing Articulated Bi-Level Auto Rack Car	120'	Automobiles	Automobiles carried with rear wheels chocked and no hold-down chains
New Box Car	50-T; 50'6"	General Merchandise	....
Existing Flat Car	50-T; 53'6"	Auto Frames	Fabricated Center Sill
Existing Box Car	50-T; 40'6"	Newsprint	....
Existing Flat Car	70-T; 53'6"	Heavy Equipment	Fabricated Center Sill
Existing Box Car	70-T; 50'6"	Tin Plate	Converted from 50-ton car
New Gondola	70-T; 39'4"	Limestone	....
New AirJet Pressure Tank Car	70-T; 42'8"	High Capacity Bulk Commodities	Partial Center Sill
Existing Box Car	50-T; 50'6"	General Merchandise	....
Existing Box Car	50-T; 50'6"	Newsprint	....

NOTE: Modifications required to adapt either a new or existing car to receive FreightMaster Units can be made with available standard components. These include either cast steel underframe ends, draft sill end castings, striker and bolster center filler castings, or rear lug castings and fabricated parts. Various combinations of these components may be used for any particular application.

New cars, existing cars, long, short, standard, special — almost *any* car can be easily equipped with the cushioned protection of FreightMaster Hydraulic Cushioning Devices with minimum modifications.

When making an installation in an existing car, the modification can be made without removing the bolster center filler or the cover plates. FreightMaster units on either end of the cushioned car act independently of each other. This design gives FreightMaster its unique capability of transmitting its shock-absorbing properties to *adjoining* cars, as well as the FreightMaster Cushioned Car.

Get full details on how FreightMaster versatility can provide the maximum level of impact protection to existing cars, new cars, *your* cars — and do it for a fraction of the cost of other high capacity mechanisms. Write or call FreightMaster, Fort Worth.

FreightMaster has received A.A.R. limited approval for use in general interchange service.

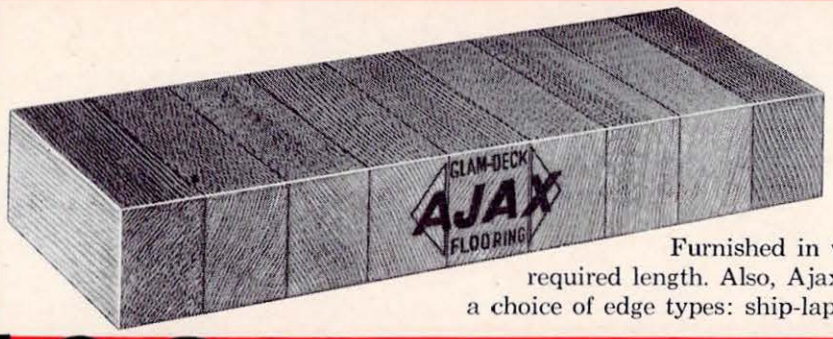
FreightMaster®

1400 E. Berry Street • P. O. Box 11387 • Fort Worth, Texas • WAlnut 4-3241 • A DIVISION OF **Halliburton** COMPANY

TO FIT YOUR

1963 CAR BUILDING PLANS

AJAX SUGGESTS:



AJAX GLAM-DECK

Sturdy Douglas Fir
EDGE GRAIN LAMINATED FREIGHT CAR FLOORING!

Furnished in various thicknesses . . . and any required length. Also, Ajax Glam-Deck Flooring gives you a choice of edge types: ship-lap, tongue and groove, or straight.

A. A. R. APPROVED

AJAX NO. 5

Vertical Wheel
POWER HAND BRAKE

Safety-engineered 2-way (double safe) operation: Full, easy RELEASE BY LEVER . . . or . . . TWO-WAY NON-SPIN vertical wheel operation. New, safer spring-loaded pawl—twice as many ratchet stops, for finer control—flat power curve, for added power with long or short piston travel. Also plated moving parts to stop rust and corrosion.

AJAX LEVER

(pump handle)
POWER HAND BRAKE

Safe! Quick-acting! Mounts within sides of drop-end gondola—flat profile for maximum clearances—corner post mounting for brakeman's clear view. One hand operation—quick take-up. Excellent leverage eliminates undue strain. Weighted, flip-type control lever.

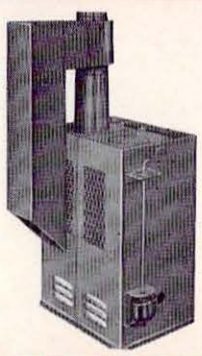
A. A. R. APPROVED

AJAX PLASTUF DUST GUARD

High quality journal protection . . . long lasting. Plastuf is a special fortified thermoplastic, *pressure molded* product. Precision fit—easily installed. Impervious to heat, cold, detergents and oil impurities. Yet . . . with this quality . . . Ajax Plastuf Dust Guards are competitively priced. (Companion product: Ajax Self-Sealing Dust Guard Plugs.)

AJAX CLEEN-FLAME SPACE HEATER

For REAL COMFORT in caboose, auxiliary car or shanty! Delivers up to 50,000 B.T.U. per *hour* even on lowest grade fuel. Controls are simple and safe—surface cooking with positive utensil holder—parts quickly removed for easy cleaning. Special stainless steel burner and interior parts. No rust, no corrosion!



Write to AJAX **CONSOLIDATED COMPANY**

8701 S. Greenwood Ave., Chicago 19, Illinois

PENTRON Division of Pentron Electronics Corporation

NEED MORE CLEAN CARS—FASTER?

(Photo Courtesy Soo Line Railroad)

WITH PAK-MORs YOU CAN UP-GRADE AND CONSOLIDATE CAR CLEANING OPERATIONS!

Make Your Car Cleaning Program A "One Stop" Operation!

PAK-MOR Refuse Packers compact car waste and refuse under 78,000 lbs. of Packing Pressure! Dunnage is readily put in large rack for salvage or disposal. PAK-MOR's flexible design provides a water tank for high pressure spraying which is also a platform for a sweeper. A hinged catwalk gives same level movement from PAK-MOR to car being cleaned. A consolidated operation to clean cars fast!

(Photo Courtesy Soo Line Railroad)

This is one approach to car cleaning. PAK-MOR flexibility can be put at your disposal for your cleaning operation. PAK-MOR Packer Bodies, Trailers and Container Systems offer a wide range of equipment capable of doing a wide range of jobs! Our Engineering & Production will work with you on your problems. Contact us today!

SANITATION FOR THE NATION

PAK-MOR

MANUFACTURING COMPANY

1123 S.E. Military Drive
P.O. Box 14147 San Antonio 14, Texas

Plastic Tank Car Increases Payload

(Continued from page 34)

to a solid, which bonds the glass together. After the tank has been cured, it is removed from the oven and allowed to cool. It is then taken to the stripping area where the tank is separated from the mandrel. Attachments for the top running board, tank anchor and fittings are wound into the tank shell. The ends are fabricated from mat material produced in the same manner as the shell. The material is then molded into shape using pressure molding techniques.

Servo mechanisms used

The BS&B filament-winding technique is incorporated primarily in a hydraulic-servo, filament-winding machine. This machine consists basically of hydraulic-servo-operated chamber rotation and glass-resin supply systems. It is driven by a pre-set programming controller which establishes the geometry of the chamber windings. The controllers are of universal design so they can be readily interchanged or adjusted to facilitate winding different geometric sizes and shapes on one machine. This system maintains exacting tolerances and insures repeatability and reliability.

- **Easy to clean.** Storage tanks built of Poxyglas by BS&B for agriculture, chemicals, soaps and detergents, food, bleaches and other products are said to be virtually maintenance free inside and out. Because the tank's interior walls are super-smooth, there is nothing for solutions to cling to. Usually a water washout will permit storage of other solutions and compounds. Poxyglas tanks have low thermal conductivity. They are claimed to be not affected by extreme heat or cold, and have been tested in temperature ranges from minus 65 deg F., to plus 175 deg F.

The 100-ton-capacity car has an all-steel welded underframe. Z-26 center sills with built-up draft sill, bolster and tank saddle. High-capacity friction draft gear and Type E couplers are used. The trucks are equipped with 6½ x 12 roller bearings and 36-inch wheels. Air brakes are truck-mounted, variable-load compensated.

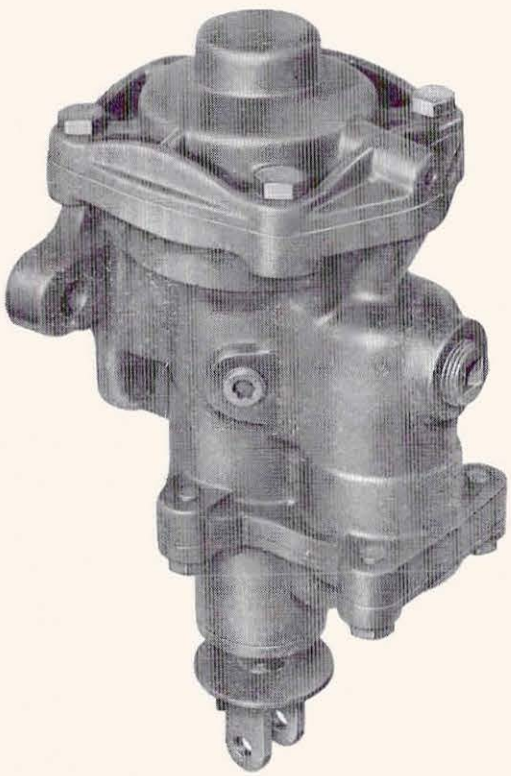
Length of the car over strikers is 57 feet 4 inches; over end sills, 47 feet ½ inch, and width over side sills is 9½ feet. Inside diameter of the tank shell at ends is 100 inches, at the center, 103 inches. Length over tank heads is 55 feet 1⅞ inches. The extreme height of car is 15 feet 1 inch, and heght from rail to top of running board is 12 feet 4-1/16 inches.

Now Available...

A DESIGN TO MEET THE NEW SPECIFICATIONS

new QRB

BRAKE CYLINDER RELEASE VALVE



Combinations of the New A.A.R. Certified QRB Brake Cylinder Release Valve are available mounted directly to the AB Valve Pipe Bracket, or on A.A.R. Certified Left-Hand or Right-Hand Adapter-Brackets.

1944 —The New York Air Brake Company originated the Brake Cylinder Release Valve with the Model QR. 1949, when A.A.R. specifications were established, again it was The New York Air Brake Company . . . ready with an advanced Model QRR!

Now, 1962—the New QRB . . . a most ingenious new design Certified by the A.A.R. to the new specifications.

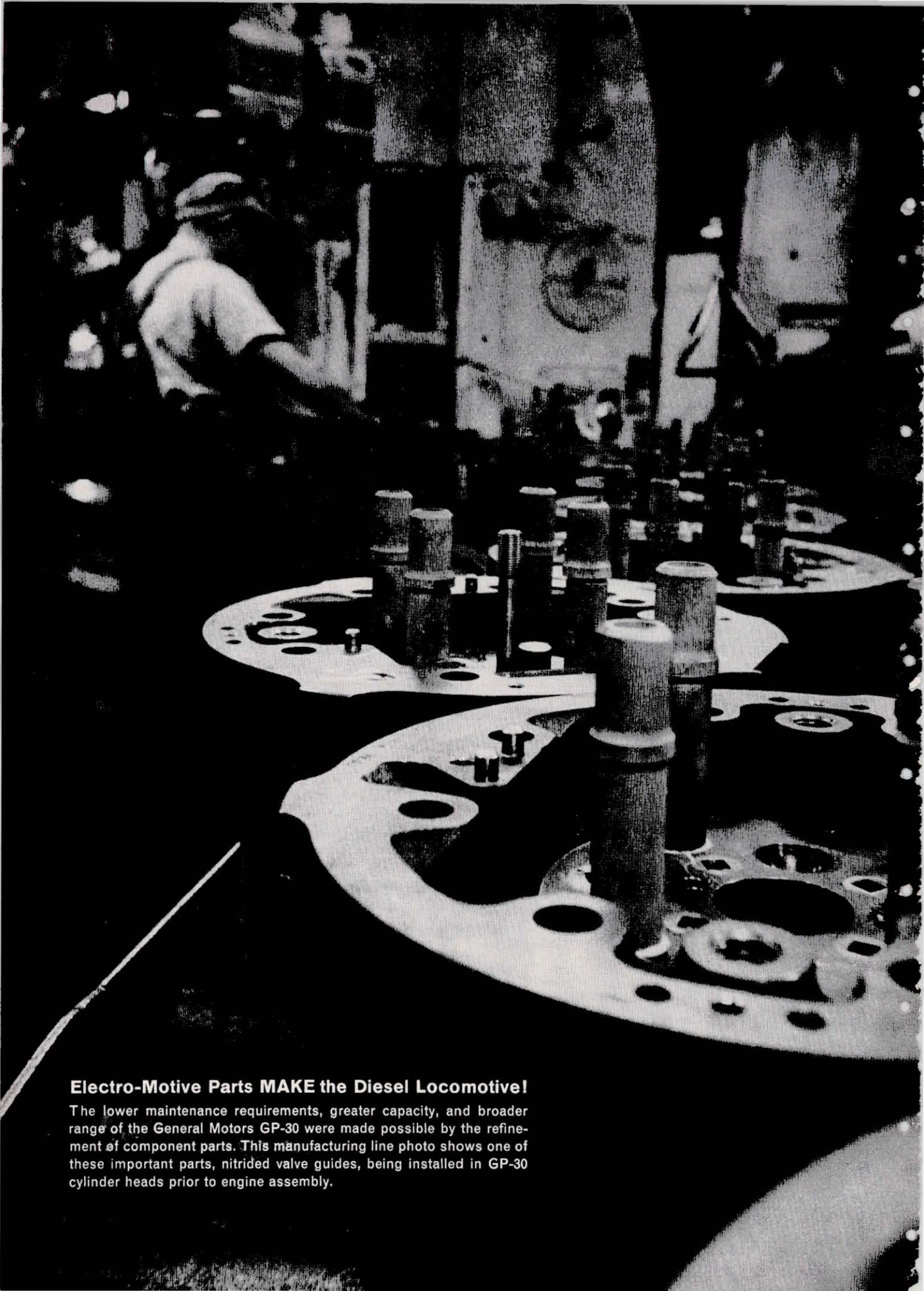
- The New QRB retains the basic and proven valvular construction and snap action of earlier models in an advanced new design.
- The New QRB can be mounted on all existing mounting brackets and adapters.
- The New QRB utilizes internal parts of the QRR . . . thus resulting in a minimum OBSOLESCENCE of Parts Stocks.

Write for full particulars on the New QRB today!

CLEARED TO PROCEED P R I MEMBER

THE NEW YORK AIR BRAKE COMPANY

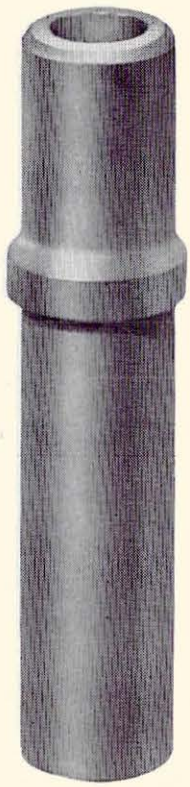
230 PARK AVENUE • NEW YORK 17, N. Y.



Electro-Motive Parts MAKE the Diesel Locomotive!

The lower maintenance requirements, greater capacity, and broader range of the General Motors GP-30 were made possible by the refinement of component parts. This manufacturing line photo shows one of these important parts, nitrided valve guides, being installed in GP-30 cylinder heads prior to engine assembly.

New on the GP-30—this valve guide reduces engine maintenance, wears longer



Put it to work on your earlier model locomotives!

We let the 567 series Diesel engine decide for itself which valve guide should be used in the GP-30 locomotive.

After exhaustive testing in our experimental engines (using standard, pearlitic malleable, and other hardened guides), our new special *nitrided valve guide* won hands down.

That's why we recommend it for your earlier model locomotives, too.

Longer life, lower wear rate

The new nitrided guide has a two-layer surface barrier which guards against abrasion, galling, seizing, corrosion and heat. Its satin-like finish has inherent qualities for the retention of lubrication.

This all adds up to a longer life and lower wear rate for the valve stem and the valve guide with a corresponding reduction in engine maintenance.

Two-layer surface barrier

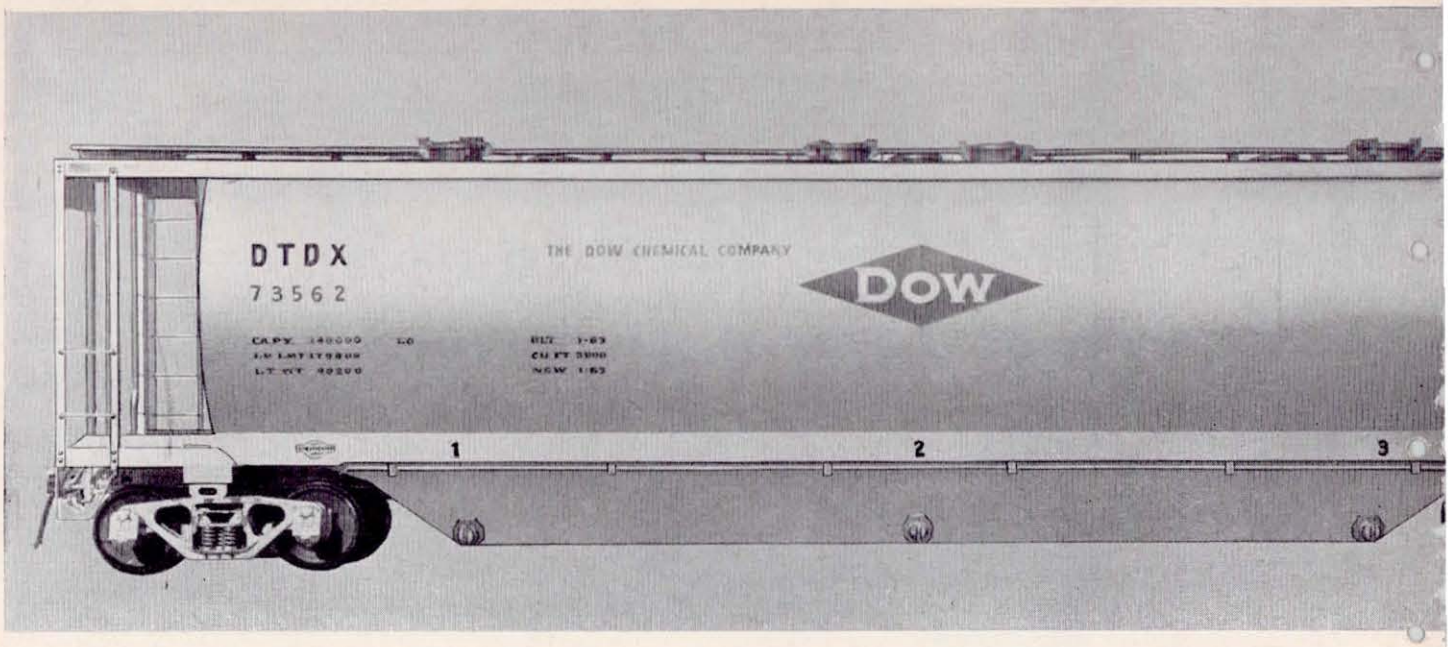
Here's how Electro-Motive's special nitriding process makes a better valve guide: First, a super-thin layer of carbon and nitrogen is blended into the entire surface of the iron. This produces a tough skin-like shell with ductility and maximum resistance to abrasion. Second, a deeper layer of nitrogen is diffused into the iron, producing a superior anti-galling surface and new durability to fight bellmouthing (rapid wear at the upper and lower extremities of the valve guide).

Ask your Electro-Motive representative to show you the economic advantages of putting *new nitrided valve guides* to work on your earlier model locomotives. Or, contact Electro-Motive Division, LaGrange, Ill.

ELECTRO-MOTIVE DIVISION • GENERAL MOTORS

LA GRANGE, ILLINOIS • *HOME OF THE DIESEL LOCOMOTIVE*

In Canada: General Motors Diesel Limited, London, Ontario


DTDX
73562
THE DOW CHEMICAL COMPANY
DOW
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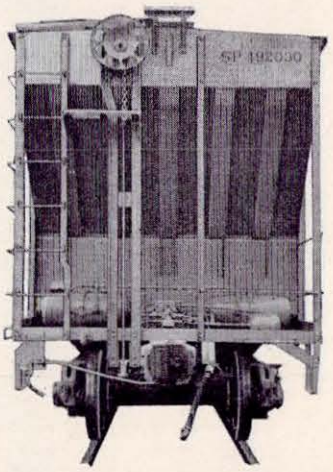
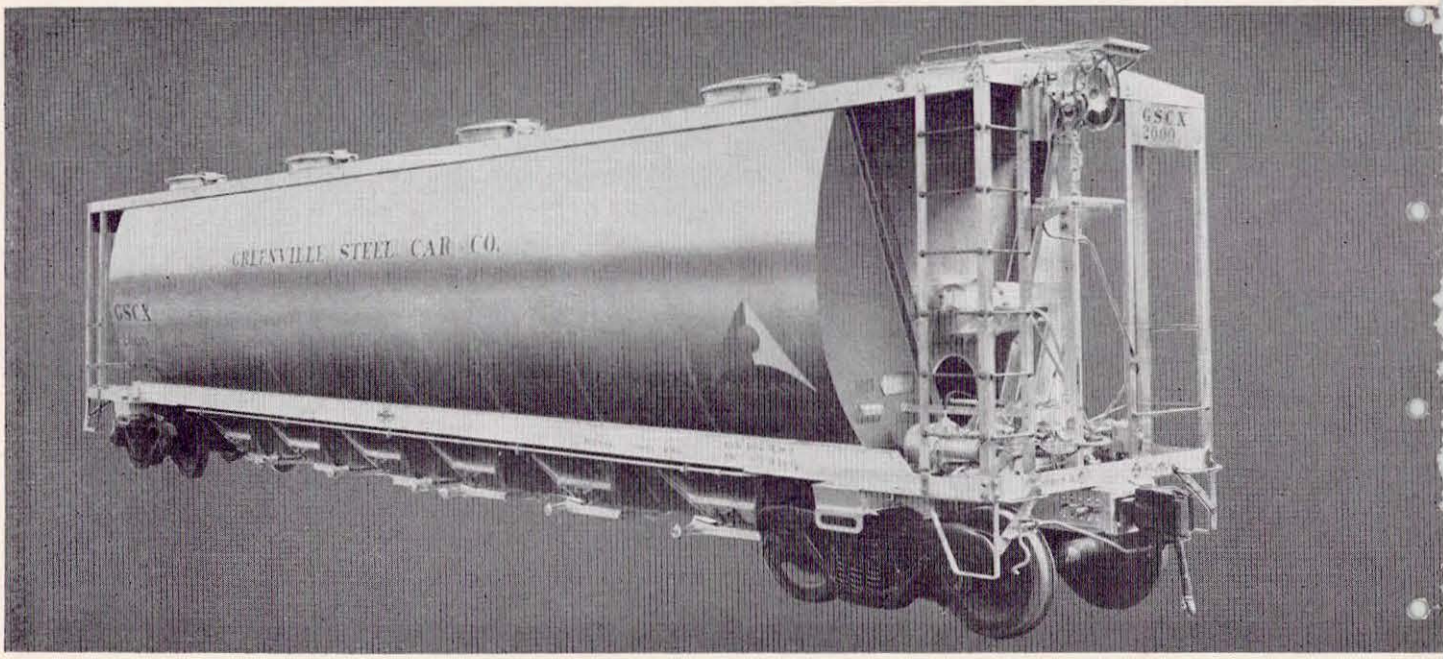
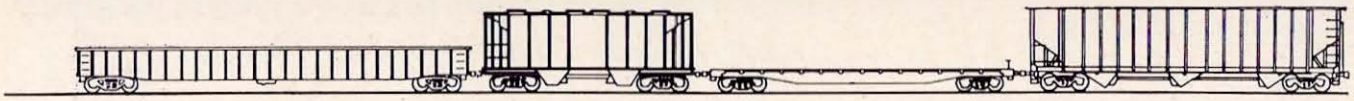
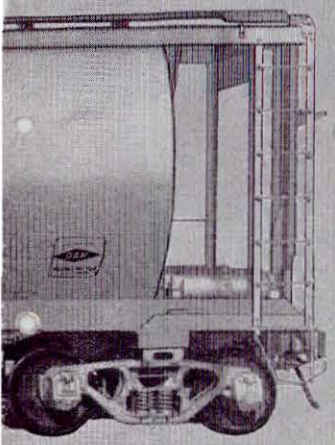
SOUTHERN
PACIFIC

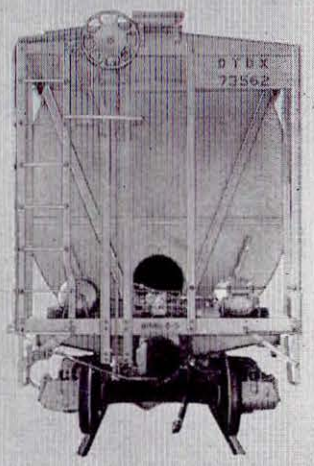



GREENVILLE STEEL CAR CO.
GSCX
GSCX
2000



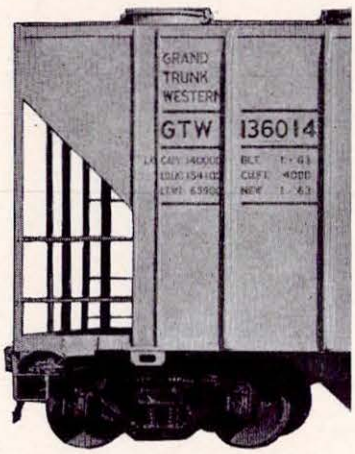
COVERED HOPPER CARS

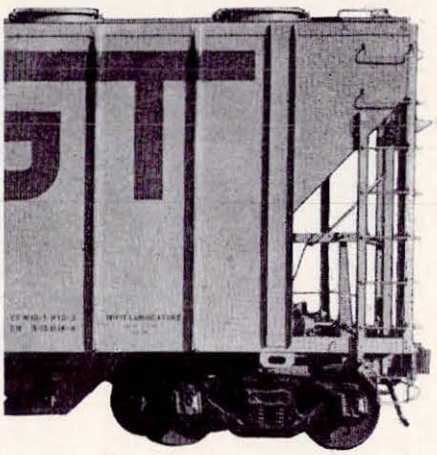




Covered hopper cars have changed. The new cars rolling off the lines at Greenville are bigger, discharge much faster, and require less maintenance. More cargo moves in less time at lower cost. From aluminum to stainless, Greenville builds them all.

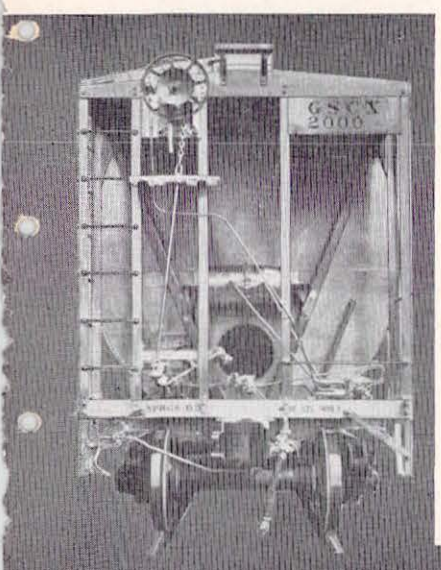
Lightweight, 3,900 cubic foot aluminum cars, built for Dow Chemical, are free of internal ledges and protrusions. Cargoes discharge fast. Painting, other than stencilling, is eliminated... so are expensive liners. The tank-type, Alcan design has been proved sound in two years of service.





Stainless 4,000 cubic foot cars have been carrying all types of dry bulk cargo on the Southern Pacific for a year. These unlined cars are unpainted and equipped for gravity or pneumatic discharge. They have a 100-ton capacity.

Barley and malt shippers, served by Grand Trunk, are using Greenville's newest design for that service. These covered hoppers have a 70-ton capacity and meet Barley and Malt Institute specifications. Full length center sills; center discharge; rounded inside corners; tough, plastic liners; gravity and pneumatic discharge fit this car for all food service.

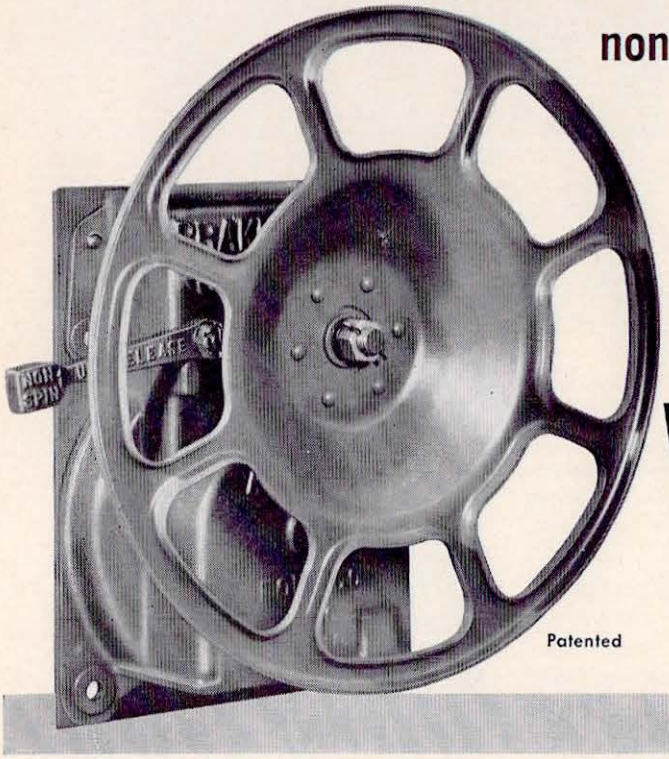


If bigger, lighter hopper cars, equipped for fast discharge and low maintenance, can make a difference in your fight for more traffic, talk to Greenville. Greenville builds them all. Want facts on Greenville hoppers —open or covered? Write Greenville Steel Car Company, Greenville, Pa.

GREENVILLE STEEL CAR COMPANY
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

EQUIPCO A.A.R. No. 4000

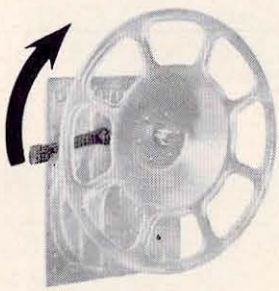
non-spin quick release vertical wheel HAND BRAKE



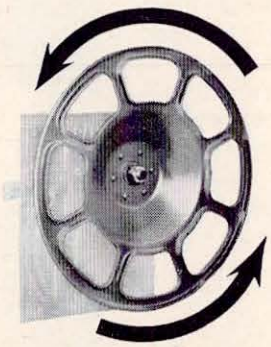
Patented

...RELEASES BY WHEEL OR LEVER

Unsurpassed adaptability: 10" and 12" cylinders.



1. Full and instant release by lever. Upward motion of this clearly-marked lever provides full, positive brake release . . . instantly . . . with non-spin wheel safety.



2. Controlled release by non-spin wheel. Counter-clockwise turning of wheel provides partial or full brake release, as needed. Precise control at all times.

A.A.R. Certificate No. 40

Designed for greater safety, efficiency and adaptability!

Entirely new, this Equipco unit banishes the problem of dragging brake shoes. By virtue of its quick release feature, the Equipco "4000" gives your brakeman the valuable option of CONTROLLED RELEASE by non-spin wheel . . . or FULL, INSTANT RELEASE by lever (without wheel spin).

Meeting all A.A.R. requirements, this new Equipco design offers you many performance features that are totally unique. For example, the exclusive drum design provides for chain take-up to 26½" with equal distribution of power. (This feature of extra chain travel affords unmatched flexibility for design application.)

And there are other design features as well . . . including improved friction-type clutch, new spring-and-gravity-loaded pawl, self-lubricating bearings, removable chain, etc. Feature for feature, there's no finer hand brake made!

Equipco UNARCO®

Send today for free brochure on the new Equipco Hand Brake. Learn why this new design means greater safety and convenience . . . less cost and maintenance. Send for your free copy today.

EQUIPCO HAND BRAKE DIVISION
UNION ASBESTOS & RUBBER COMPANY
6 North Michigan Avenue, Dept. RA-48
Chicago 2, Illinois

MARK UP

YOUR DRAFT GEAR PROTECTION...

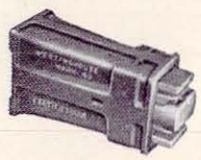
MARK DOWN

YOUR COSTLY DAMAGE CLAIMS!

Our line of "MARK" Gears is "tailored" to your requirements! There's a sturdy, high capacity Westinghouse "MARK" Gear to meet every damage-claim-reducing requirement.

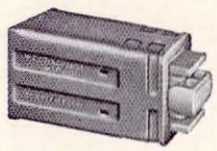
Each of these distinctive Westinghouse Gears is A.A.R. Approved. In each Gear you'll find the highly desirable combination of HIGH CAPACITY and LOW REACTION FORCE (sill pressure).

Specify Westinghouse "MARK" Gears for new equipment, for maximum protection. Apply them for replacement when you UPGRADE present equipment!



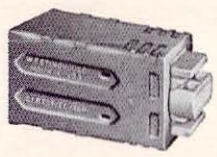
Westinghouse
MARK 40

Friction gear for 24⅛-inch pockets; 3¼ inches travel. A.A.R. Certificate No. 35, under A.A.R. Specification M901-53.



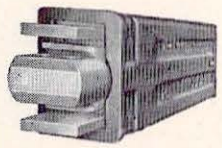
Westinghouse
MARK 50

For 24⅛-inch pockets, 3¼ inches travel. Friction principle. A.A.R. Certificate No. 41, under A.A.R. Specification M901E-59.



Westinghouse
MARK R500

A.A.R. Certificate No. 42; also met A.A.R. Specification M901E-59. Combination friction-rubber, for 24⅛-inch pockets; 3¼ inches travel.



Westinghouse
MARK 80

For 36-inch pockets. Extra high capacity friction gear. A.A.R. Certificate No. 37 under A.A.R. Specification M901C-56. Has 4¾ inches of travel.

For DOUBLE Protection... Westinghouse DUAL CUSHION Gear Arrangement:

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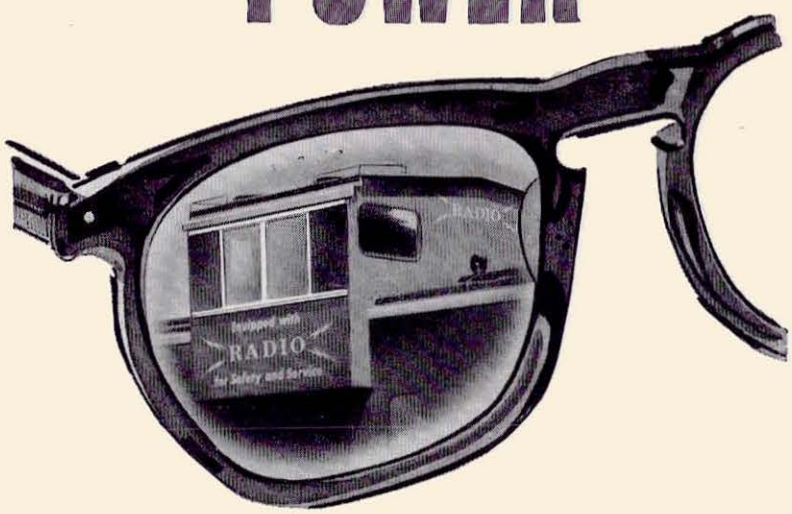

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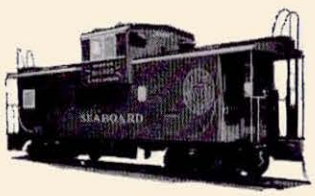

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SURCOM Proposal Outlined

A nation-wide railroad communications service is in the planning stage. If implemented, it could lead to car reporting and car accounting on a national basis.

Details of the proposal were disclosed at a recent Railway Systems & Management Association seminar in Chicago by Grant C. Vietsch. RSMA's executive director.

"We have created a vehicle, a corportation called Surface Communications, Inc.," said Mr. Vietsch. "Its symbol is SURCOM, which stands for Shared Use of Railway Communications, and its purposes are:

- "To furnish point-to-point communications service to common carriers.
- "To perform car accounting and management advisory services relating to movement of goods and people via common carrier.
- "To engage in any management or research and development related to transport operations."

Mr. Vietsch then outlined in general terms the approach to be taken by SURCOM:

"1) A pilot study will be begun at once, using leased computer center facilities. Initial emphasis will be upon communications switching. We are in the process of writing up the proposal for TEST—Total Electronic Switching of Telecommunications. This will be one of the first ventures of SURCOM and will serve as a pilot study upon which to base increased participation by additional roads.

"2) Coincidental with this communications switching will be studies aimed at determining system parameters and system discipline for the car-accounting service.

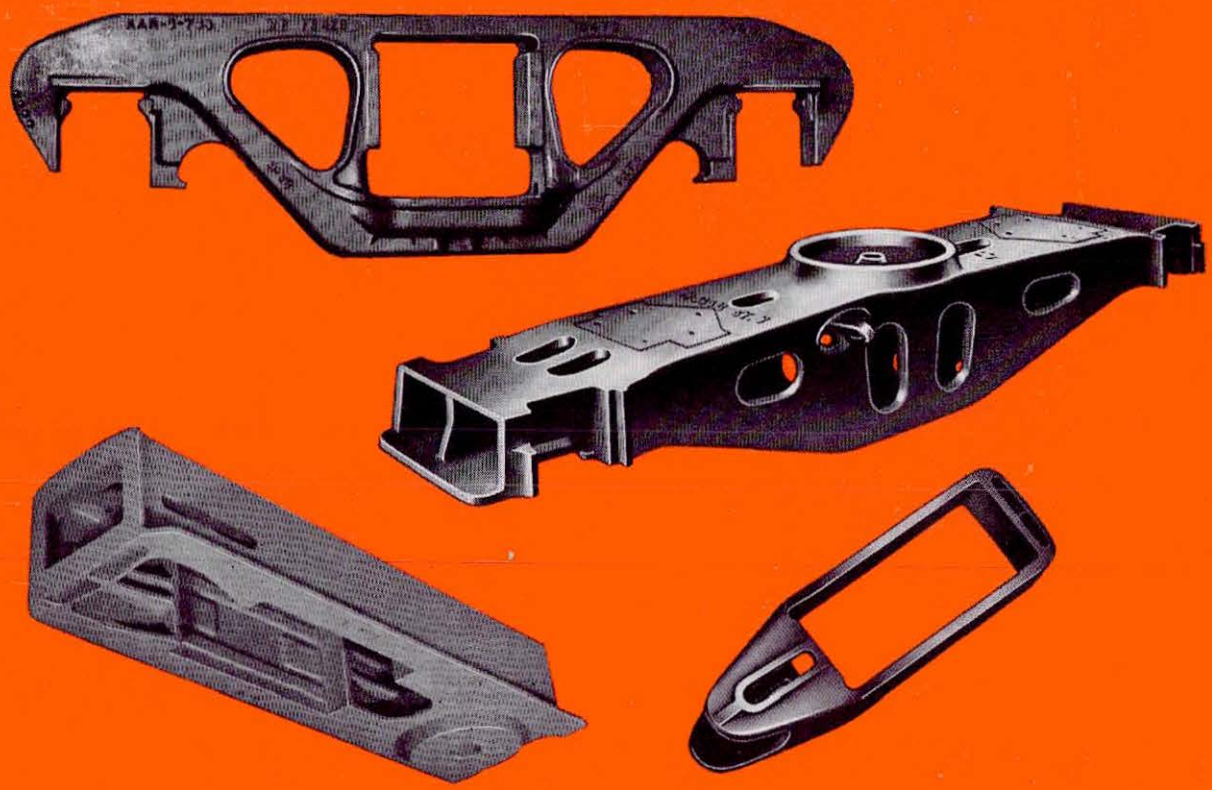
"3) Once a system is established, groups of related roads will be cut over to the computer center.

"4) In its first stage of operation, the center will merely report car movement. Once each day each road subscribing to the service will receive a list of all its cars off-line and their last reported location. Further, it will be possible to interrogate the center at any time to determine the location of a specific car or container.

"5) One of the basic tenets of SURCOM will be a continuing systems study to establish paths to be followed to bet-

(*Continued on page 53*)

RELIABILITY



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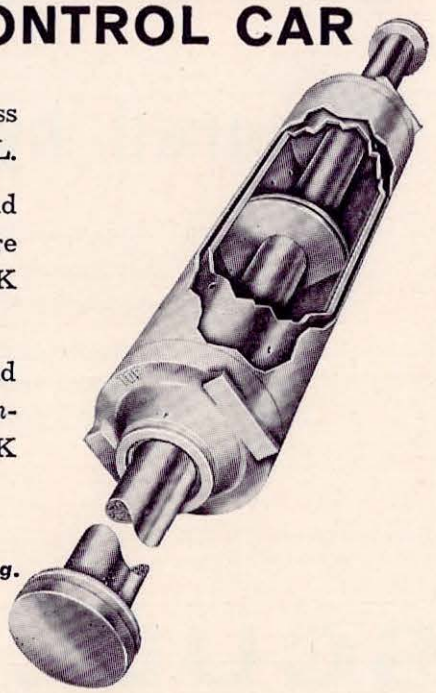

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(*Continued from page 50*)
ter car accounting. It is not illogical to suppose that, in time, the center will be turning out per diem accounting and related statistics."

SURCOM, said Mr. Vietsch, will be capitalized on the basis of one share of stock per freight car owned. Capitalization would pay for the study programs proposed. Although user charges haven't been firmly set, it has been proposed that for the car reporting service the charge might be one cent for each car reported daily.

In Mr. Vietsch's view, SURCOM would bring a quick payoff at little or no capital investment. It would lease computer center time for switching and initial program studies. Leased telephone company facilities would provide communications between the center and the railroads.

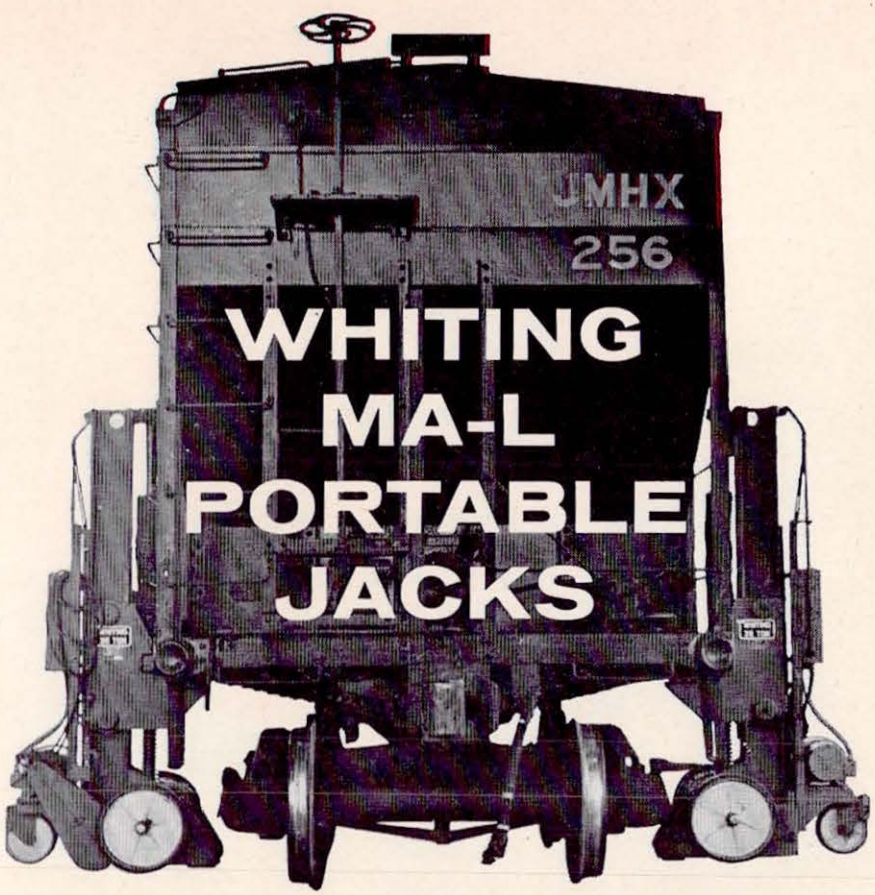
Mr. Vietsch's presentation on SURCOM was a highlight of a seminar that also heard discussions on: automatic message switching on the New York Central; paperwork automation on Maine Central; centralized billing on Pittsburgh & Lake Erie; mechanized yard office procedures on Louisville & Nashville; Great Northern's use of the ERPC uniform format for train consist information.

● **Automatic system for NYC.** An automatic message switching and processing system developed by Collins Radio Co. for the New York Central is now being installed and will pay for itself in one year with $1.5 million savings, Robert C. Karvwatt, the road's director of communications, told the seminar. The system capacity will be 256 lines operating at 100 words per minute. For system reliability (24 hour, year-around operation) and to handle traffic peaks and down time for maintenance, two data processors will be installed.

In operation, parallel information would be fed into both machines and both process to the output stage, but only one machine would transmit the data or message out on a line. Volume of NYC message is now 20 million per day. The new Data Central can handle 40 million per day.

Teletype from the stations will transmit directly into Data Central where it will be read and processed (switched, stored, etc.). The new electronic switching system will also do message numbering and accounting, to provide records for study of traffic flow.

● **Message priorities.** Data Central will have priority systems in which a priority message goes to the head of the line of messages waiting for a line. The equipment will also be set up for a time priority for messages that must arrive at a station at a certain time (for example, messages that must ar-



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Whiting MA-L Portable Jacks—especially designed for lifting freight cars in your riptrack area—feature special low lifting brackets for fast, versatile repair operations. Bracket is only 2'3" from jacking surface to base when lowered—accommodates nearly all types of freight cars. Low cost electric power lifts even loaded cars with ease, within each jack's rated capacity of 35 tons.

Highly portable MA-L Jacks do not require jack pits. Anti-friction wheel bearings enable one man to wheel jack into position. Only 35-45 pounds of pull required to start jack rolling.

Pendant push button control operates two or four jacks in unison. Car is raised and lowered smoothly, evenly—as much as 4'7" at the rate of 9" per minute! Self-locking worm gears freeze in case of power failure for added safety to operator and car.

FREE: Bulletin PJC-403 gives complete details on Whiting Portable Jacks. Write for your copy to: Whiting Corporation, 15603 Lathrop Avenue, Harvey, Illinois.

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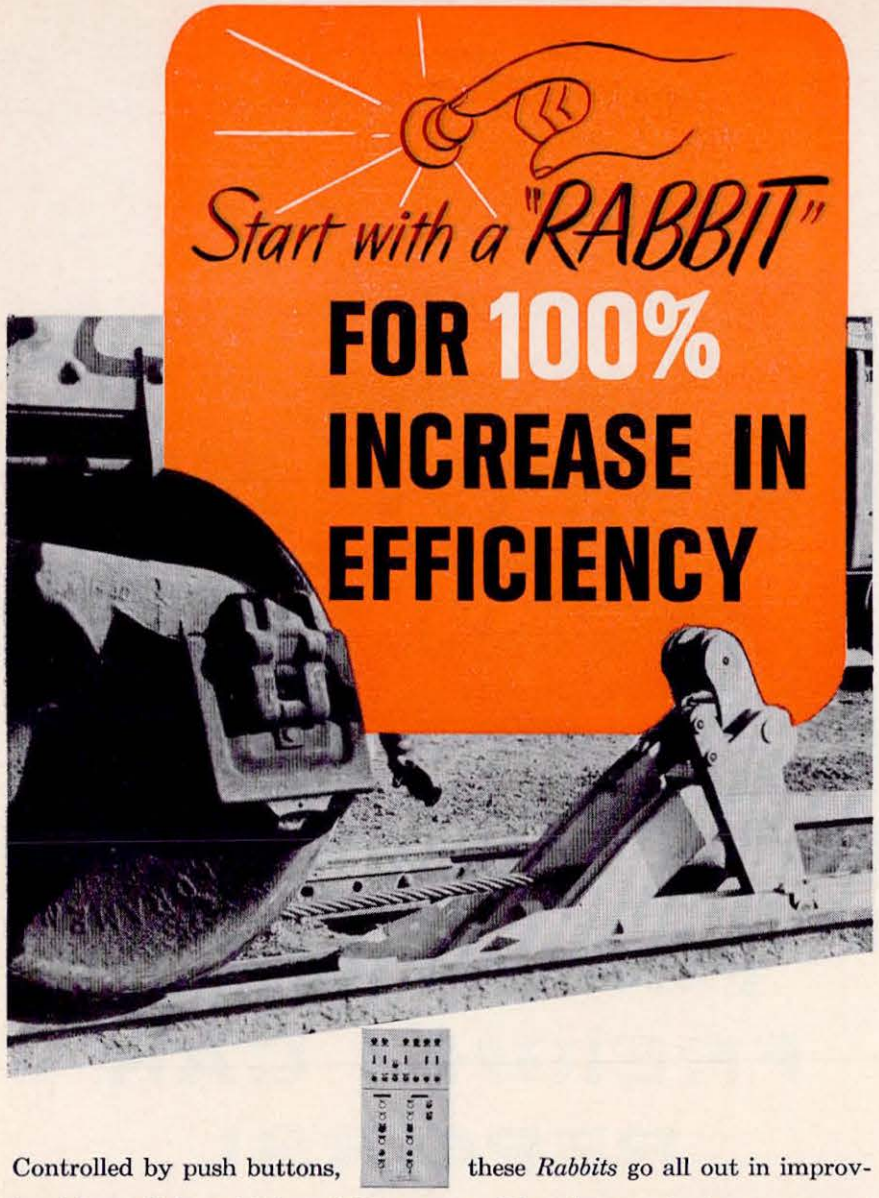
RAILROAD EQUIPMENT



Controlled by push buttons, these *Rabbits* go all out in improving labor efficiency! They deliver cars safely where and when you want them—with little maintenance and no wasted manpower. With 44 rabbit-equipped repair tracks now in service, this system offers these money-saving advantages: (1) At least 100% increase in labor efficiency. (2) Profits on AAR Billings. (3) Reduction in per diem costs. (4) 50% to 90% savings on switch engine hours. *May we discuss the car handling efficiency with you—involving either separate components or the complete system?*

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rive prior to the arrival of a train).

• **Maine Central saves money.** The payoff for paperwork automation on the Maine Central has been annual savings of about $200,000 reported the road's comptroller and treasurer, Horace N. Foster. Over the 8-year period in which MEC's accounting and treasury department has been operating on a mechanized basis using punch card equipment (90-column punch cards and a Univac solid state 90 step computer), the number of employees has dropped from 190 to 135.

One important byproduct of the MEC's paperwork automation has been the addition of car numbers to the loss and damage freight claim payment cards. "It is hoped that a tabulation of all claims by car number will indicate to us over a period of time, those cars or series of cars which are continually involved in certain types of loss and damage claims," said Ralph Gordon, auditor data processing and systems manager. "If some basic structural condition of the cars is determined to be the cause of damage, then new car specifications will take this into consideration. It is possible that modifications will be made in present cars in particular types of service to alleviate the condition. Other reports by origin and destination will indicate those geographic areas in which to concentrate our claim prevention work in conjunction with shippers and consignees."

• **P&LE doubles expected savings.** Centralized billing in which a photocopy method is used to produce, with proper masking, a freight bill from the waybill is producing annual savings more than double the original estimate of $100,000 for the Pittsburgh & Lake Erie. Prior to centralized billing at Pittsburgh, the freight rate and charges appearing on the waybill were verified by the clerical force of local station offices. Freight bills were typed on a standard form and were mailed to the shipper, who sent the payment back to the local station office. The local stations deposited remittances in a bank and sent in a daily report to the station accountant's office at Pittsburgh along with a copy of the remittance slip and freight bill copy.

In addition to much duplication of effort by the station accountant and the local stations, "the rise and fall of business means a continual fluctuation in our local station forces, which provides for employees to be shifted frequently from one job to another. This creates a situation whereby a relatively large number of errors in billing are made by the station force," said R. P. McConnell, P&LE manager services and procedures.

• **Solved by centralization.** The solution was to centralize all billing at

the road's Pittsburgh' headquarters. To meet the ICC time schedule for billing, mail trucks (one operating east of Pittsburgh and the other west), pick up and leave mail at specific locations at specific times on a schedule that enables them to pick up all waybills representing a day's business and to deliver them to Pittsburgh by 8:30 a.m. the following day.

The heart of the P&LE's centralized billing procedures is the production of the freight bills on translucent paper using a Photostat positive process photocopier equipped with a special subject holder and mask. After the required billing information has been entered and checked on the waybills, the waybill can be converted into a freight bill by substitution of elements from the P&LE bill head, for the corresponding elements on the waybill (prepared by and bearing the insignia of the line originating the shipment). The substitution is accomplished by a masking technique performed during photocopying. Waybills are photocopied in sets of eight freight bills on translucent stock. The required number of copies of the freight bills are then produced on a Bruning diazo printer.

On the day a freight car is delivered to a customer, the local freight agent retains the waybill and enters the customer's code number on it and places it along with other waybills for that day in a mail lock box outside the freight office to be picked up by the mail truck. (The customer's assigned code number identifies the customer and the number of freight bill copies required.) Next day the accounting and billing are performed at Pittsburgh. By 7 a.m. on the morning of the third day, the freight bills are mailed in the post office. The customer mails his remittance to a lock box maintained for the railroad by a Pittsburgh bank, which credits payments to the P&LE account.

• **L&N saves $50,000 a year.** Introduction of mechanized yard office procedures using IBM-Teletype equipment is effecting annual savings of approximately $50,000 at Louisville & Nashville's Birmingham-Boyles, Ala., terminal, according to division superintendent W. H. Thompson. The key to the procedure, he reported, is in the fact that the car information formats were designed to be useful at the yard office level as well as at the level of data processing.

As part of the Boyles retarder classification yard mechanized office procedures initiated last summer, facsimile equipment was installed at the Boyles general yard office and at two Birmingham freight offices for transmission of bills of lading. All billing on outbound cars is done at the Boyles general yard office. All freight bills are prepared on an IBM 402 machine. "The use of this machine has greatly reduced cars going to our hold track, and expedited departure of cars from the yard. It also enables us to discontinue costly messenger service within the terminal," Mr. Thompson said.

• **GN uses ERPC format.** Great Northern is using the Eastern Railroad Presidents Conference format and procedures introduced by the RSMA in 1959 (RA, March 23, 1959, p. 28) in its mechanized yard and Central Car Bureau system (punch card equipment at 10 yard offices and teleprinter transmission to St. Paul headquarters). Experience with this format has enabled GN to "isolate and define the factors necessary to create a system whereby car movement information, essential both internally and in interchange can exist simultaneously with the balance of the accounting data or separately as the situation may dictate," said William A. Zimmerman, director systems and programming.

"One of the major objectives of our central car bureau beyond the tracing and car distribution function was to integrate as much as possible first reporting cards into our general office customer information system tied into the revenue accounting structure. For this purpose we use the No. 1 and No. 2 cards from the Central Car Bureau system. Since CCB furnishes 50-60% of the data in this manner, we key punch the balance of the received traffic in the general office for those waybills not stamped with a proper yard stamp. The balance of the forwarded traffic is obtained from manually prepared waybill passing reports at all junctions which list in ERPC format the waybills not properly stamped. These in turn are punched at the general office.

"All this data is brought together in the computer in raw form and the reports produced utilizing only computer audit techniques. No customer or city coding is done except that by the keypunching function to reduce the data to ERPC format. This also means matching computer tape history files for year-to-date and comparative figures," Mr. Zimmerman explained.

The report thus produced is sent to all on-and-off-line traffic agencies on a monthly basis. It covers 100% of GN's carload movement. This same data is being used for a monthly revenue estimate on a selective basis, which will be expanded. As fast as programming can be accomplished, Mr. Zimmerman said that customer performance reports and selected customer ledgers for claim work will be prepared. "We are making use of the ERPC coding format in systems subject to a major degree of accounting discipline, and they have worked," he concluded.

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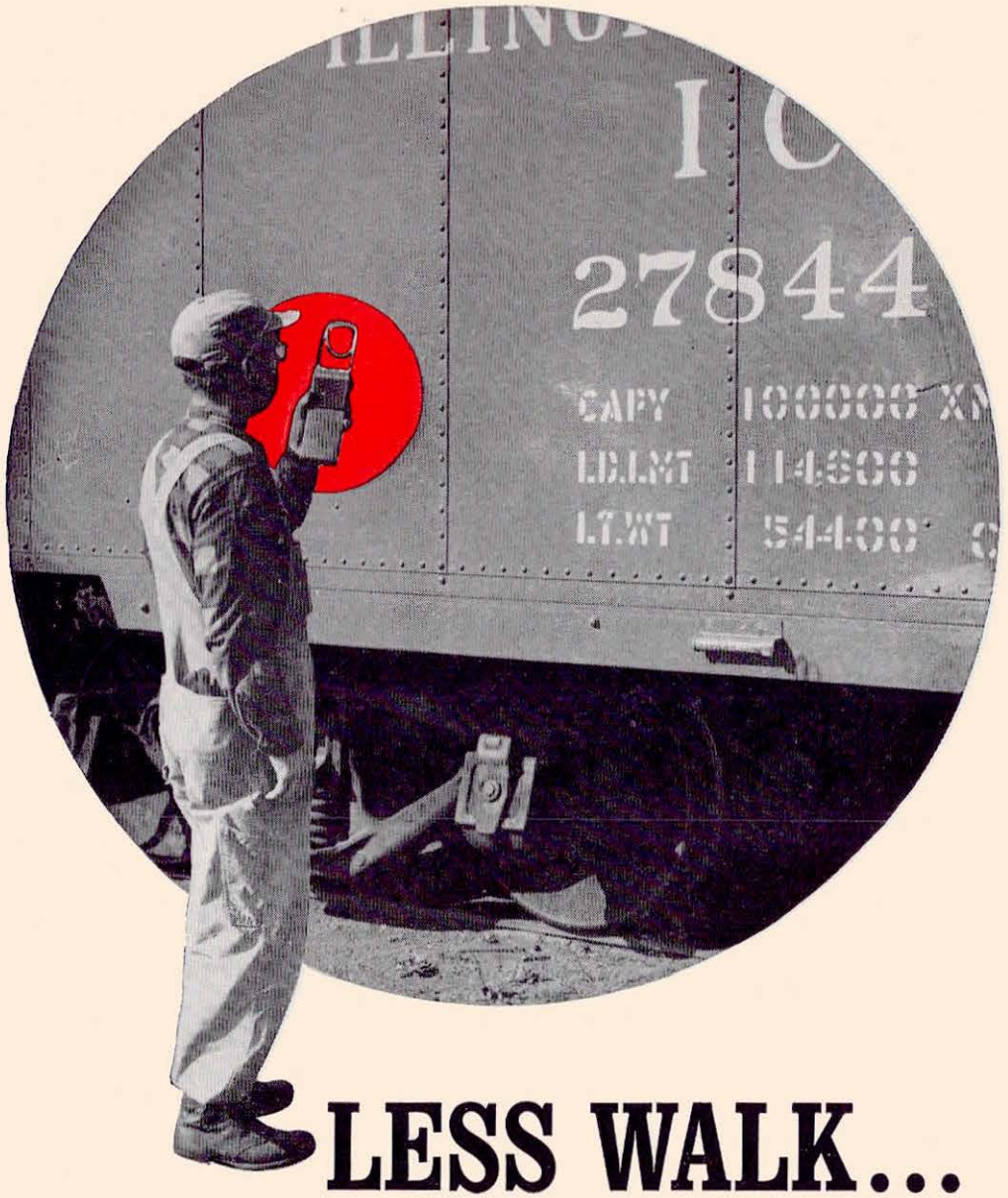

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This mark tells you a product is made of modern, dependable Steel.

Why did the Western Pacific acquire additional "kitchen-clean" USS Tenelon Stainless Steel covered hopper cars?

The Western Pacific Railroad has increased its TENELON stainless steel covered hopper fleet from 12 to 30 cars. Operating experience with the first 12 cars led to their decision. Here are the benefits, as the Western Pacific found, of USS TENELON stainless covered hopper cars:

1. Customer satisfaction—"Kitchen-clean" shipments carry out Western Pacific's policy of "Distribution Dividends" for their customers. Shippers and receivers appreciate this effort. TENELON stainless steel cars will retain and build traffic for the Western Pacific.

2. Virtual elimination of car pre-load preparation costs—For regular, unlined steel cars, preparation costs prior to loading of foodstuffs averaged $70 per load. TENELON cars average only $1.50 per load.

3. More revenue with less out-of-service time—Regular cars being prepared to haul foodstuffs are out of service an average of *three days*. The TENELON car is ready for loading within *forty-five minutes* by rinsing with a water hose.

4. Elimination of lading contamination claims—The "kitchen-clean" interior of a TENELON stainless steel covered hopper car eliminates damage claims arising from interior contamination or abrasion of lading. TENELON steel's smooth, hard surface doesn't harbor contamination.

In announcing the repeat order for stainless steel equipment, Mr. E. T. Cuyler, Chief Mechanical Officer of the WP, said: "The service performance of our first TENELON stainless steel covered hopper cars has been excellent and demonstrates that this type of equipment is fully justifiable on the basis of shipper and receiver satisfaction and financial return to the railroad. The easy-to-clean surface of TENELON stainless steel has virtually eliminated car preparation costs and outage time prior to loading. Shippers of highly rated commodities, such as rice and other foodstuffs, are most enthusiastic about the availability of 'kitchen-clean' equipment. The corrosion-resistant cars will be fabricated by USS TENELON, a stainless steel developed recently by U. S. Steel Corporation. TENELON steel's superior design strength—nearly twice that of conventional stainless steel—will permit economies both in the weight and cost of these units. Such economies are a part of Western Pacific's continuing 'Distribution Dividend' program for its shippers." The 18 stainless cars will be of 100-ton—4,000-cu.-ft. capacity and will be built by Thrall Car Mfg. Co., Chicago Heights, Ill.

5. Maintenance—Very little. In case of collision damage, this car can be repaired, without special problems, in the railroad shop.

6. Versatility of ladings—Maximum utility is gained from a TENELON stainless steel covered hopper car because all dry products hauled by the railroads are compatible with TENELON stainless steel. *Anything* goes in a TENELON covered hopper car.

When it is a matter of clean shipments, compromises are out. It comes down to what the Western Pacific learned: there is no substitute for doing the job right the first time. If the customer wants a car that will deliver a "kitchen-clean" lading, a TENELON covered hopper car is the answer. This stainless steel covered hopper car makes a good impression, it makes money, and it makes sense. That's why the Western Pacific has almost tripled the size of its fleet.

If you want the full story on the development of the TENELON stainless steel car, send us a wire or write to: United States Steel, Room 6700, 525 William Penn Place, Pittsburgh 30, Pennsylvania. USS and TENELON are registered trademarks.

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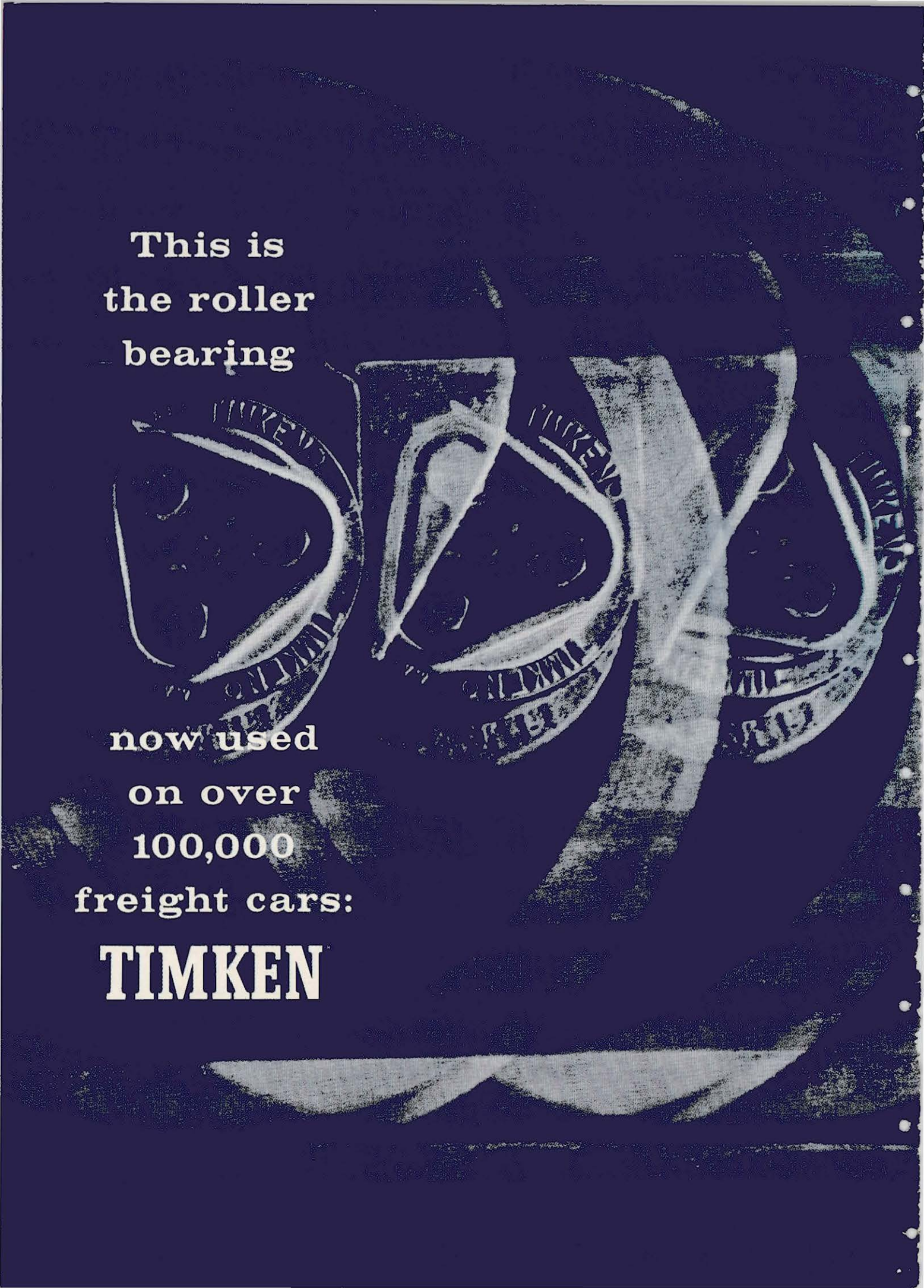

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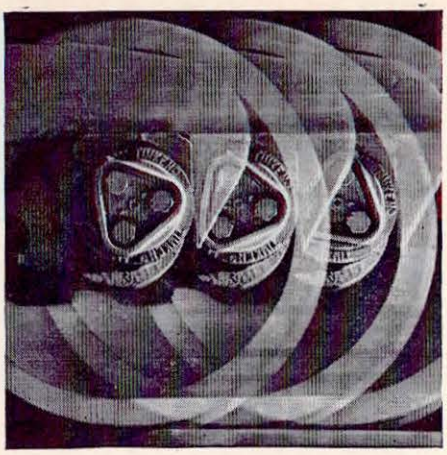

ON OVER 100,000 CARS

Timken® tapered roller bearings are now rolling on 109,058 of America's freight cars on 120 railroads and private lines. This is an increase of over 86,000 cars in just the past 5 years—"Roller Freight" is really rolling now and Timken bearings are the "preferred" journal bearing.

This didn't just happen. It's the result of performance in actual railroad service—a record no other bearing equals. Let's look.

1) Timken bearings average over one-hundred million miles between car setouts due to overheating. Well over 100 times the mileage of plain bearings.

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Any way you look at the figures, they pay off in modern, heavy-duty, high-speed railroading by cutting operating and maintenance costs to the bone. They cut inspection time drastically and speed freight with little delay to give better service to shippers.

This performance is the result of our pioneering the tapered roller bearing during a 35-year partnership with the railroads. It required research and development and unmatched quality built into every bearing by precision manufacture from nickel-rich steel.

Now we have a plant devoted solely to railroad bearings and capable of producing 40,000 car-sets a year to meet the growing demand for Timken bearings. It makes economic good sense to switch to Timken "AP" bearings. Let us show you. The Timken Roller Bearing Company, Canton 6, Ohio. Also makers of Fine Alloy Steel and Removable Rock Bits.

QUALITY TURNS ON HEAVY DUTY

TIMKEN®

TAPERED ROLLER BEARINGS

RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

TRANSIT vs. HIGHWAYS?—There seems to be developing here and there something of a ruckus between highway interests and advocates of rail transit development. I read a report that officials of the Road Builders' Association were fearful lest diversion of riders to transit lines would cut down auto excises and fuel levies, needed to complete the 41,000-mile interstate highway system—an enterprise on the sanctity of which I beg leave to be a heretic.

In a speech to the Cleveland Traffic Club not long ago, J. E. Goodman, executive vice president of General Motors, said, "There is no single, pat formula that will work in any and all cities. Some will require expansion of both rail transit and freeway systems to meet the variety of transportation needs in the area."

That sounds like a rather reasonable approach, localizing the problem as it should be. Practically all of us are motorists and expect to continue as such, but not all of us want to be forced to depend entirely on do-it-yourself transportation, especially around the big cities. The needs of a city for rail transit deserve the same unbiased consideration—no more, no less—as is given to the needs of the same city for modern highways.

VETERAN WATER DOCTOR—In this corner on Feb. 11 I referred to retired C&O water service chief, R. C. Bardwell, as "the late Bob Bardwell." The qualification "late," I'm happy to report, was in error. Bob is actively engaged in resting at Mt. Dora, Fla. He is one of the real veterans of the water treating business. When I first knew him, he was holding forth as water treating expert for the MoPac at Kansas City. He was one of the fellows who elevated water treatment to professional status—a form of know-how still highly useful, although no longer as large on the railroads as it used to be when all power was steam.

PAULSEN SPENCE, INDIVIDUALIST—I was reading in Trains magazine about the (very) short-line Louisiana Eastern, its 35 steam locomotives, and its late president (and, I suspect, sole owner of the railway and its power), Paulsen Spence. I had known Spence very well, for many years up to his death in the fall of 1961. He always came to see me on his semiannual trips up north—where he had a small manufacturing business, in addition to his gravel operations in Louisiana.

Spence was an uncompromising devotee of steam power. He thought the diesel was only a passing fancy which, before long, would be forgotten. He was also an ardent right-wing Republican and political conservative. He even went to the length of writing a book, setting forth his political and economic doctrines, which he had published at his own expense.

You don't have to string along with a fellow like Spence in all his beliefs to admire the depth of his faith and his willingness to go to the limit of his resources in time and money to defend them. Can you imagine what would happen to an independent fellow like that in a socialist state?

BRITAIN'S PULLMANS SOCIALIZED—I see in the London Midland Magazine (British Railways) that the Pullman Car Company in Britain has been taken over by the railways, but its parlor car service will continue to be operated. And now along has come a book, "Pullman in Europe," by George Behrend (published by Ian Allan, Ltd.), which tells the whole interesting story of George Pullman's contribution to luxurious passenger travel in Europe.

TURNING BACK THE CLOCK IN MO.—I note in the Slater (Mo.) News-Rustler where a local farm cooperative is planning to install grain-loading facilities at nearby Miami, on the Missouri River. Miami is an old "river town" that did a thriving transportation business in the steamboat days, before the coming of more dependable and economical railway service to the area. Put enough taxpayers' money into it, and the transportation calendar could be turned back still further—to the prairie schooner days, or even to the pack-mule era.

Now it's easy as

to save on handling and shipping costs in the South!

SHOWN HERE are but three of many new types of special-purpose freight cars now in service on the Southern. All are tailor-made to do a specific shipping job better and cheaper than it has ever been done before.

We don't have to spell out the savings to shippers now using our custom-designed freight cars. They know from their own experience that cars like these can help cut *total* distribution cost to the bone. Not only transportation charges, but packaging and handling expenses, too.

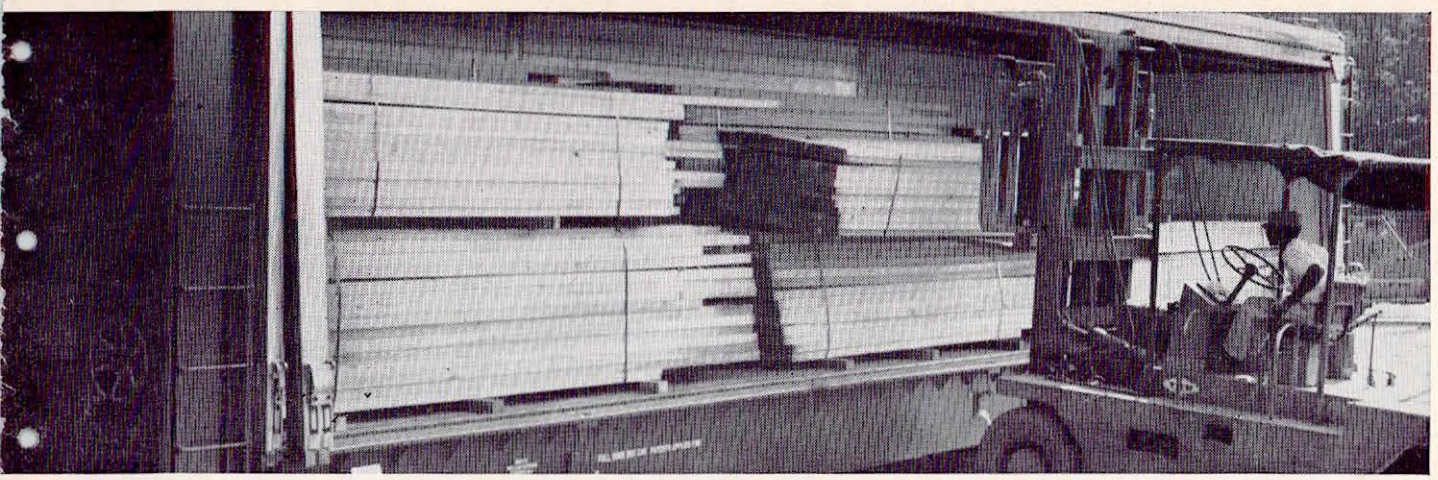
Southern's ever-growing fleet of special-purpose freight cars is one more way we are increasing our *usefulness* to our customers. Put these new cars to work saving money for *you!* Call or write for complete information.

LOOK SOUTH LOOK AHEAD

SOUTHERN RAILWAY SYSTEM

WASHINGTON, D. C.

"SOUTHERN'S ACCENT IS ON YOU!"



A **ALL-DOOR BOX CAR.** Roll-up sides open up the entire length of car, on both sides, for speedy, economical mechanical loading and unloading. Perfect for finished lumber and extra-long packages (up to 50 feet) of all kinds.

B **"BIG JOHN".** This lightweight aluminum-body covered hopper carries 100-plus tons of grain or other bulk commodities in 4 separate compartments. Low incentive rates mean spectacular savings for our shippers.

C **CONTAINERIZED RAIL-HIGHWAY SERVICE.** For both carload and LCL shipments. Aluminum containers come in 40′, 20′, 10′ and 5′ lengths. Can be loaded in any combination up to 80′. They're light, strong, easy to load and unload.

THRALL

the car you have in mind may already be designed

Thrall "Car of the Month"

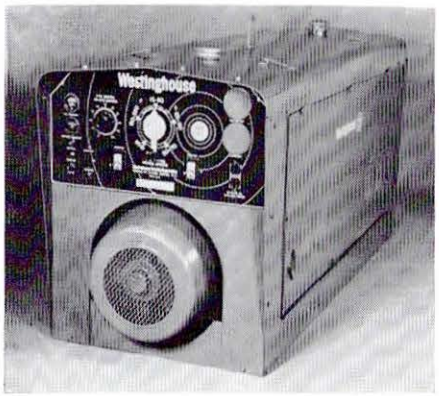
The longest flat car ever to be built with a full-cushioned underframe. These new 89-foot Thrall flat cars are now in service by the St. Louis-San Francisco Railway Company hauling trucks. Designed for versatility, this car can also be used for agricultural implements, piggy-back loads, and containers. Bi-level or tri-level racks are easily added. It is extremely well designed as to width, height, cushioning, as well as for maximum weight and space capacities. Write for details.

- Specials—standards.
- One car—or three hundred.
- No need to "hitch-hike" your order (and specifications) to a large order.
- Thrall production-line techniques assure no premium for small orders!
- No finer engineering or construction than a Thrall . . . and no lower cost!

THRALL
CAR MANUFACTURING COMPANY
2602 WALLACE ST., CHICAGO HEIGHTS, ILL.

B606

NEW PRODUCTS REPORT



Arc Welder (RA-1)

The Westing-Arc DCG-250, a field-service welding power source, is rated at 250 amp with a welding current range of 15 to 350 amp. It is available for truck transport as a unit, or in two-wheel and four-wheel high-speed towing types with 600 x 16 pneumatic tires. Power train includes a Chrysler six-cylinder industrial engine with standard pushbutton 12-volt electric start ignition, and all standard operating accessories. *Westinghouse Electric Corp.*

Incinerating Toilet (RA-2)

The Model GC Incinolet is a gas-fired, waterless incinerating toilet designed specifically for use in cabooses. The unit is of stainless-steel and nickel-alloy and requires only 75 watts electrical power. Heat is applied by radiation, which encloses the flame within a high-temperature combustion chamber. Odors are drawn into the flame and oxidized. Butane or propane produces heat at 12,000 Btu per hr. *Research Products Manufacturing Co.*

Adhesive Glazing (RA-3)

A modified polysulfide synthetic rubber sealant and a catalyst, applied as a ⅜- x 7-in. bead on inside edge of windshields or backlights, are said to permanently bond Thiokol polysulfide synthetic rubber to glass and body shell of motor vehicles. Glass is thus suspended in a leakproof, resilient cushion for life of vehicle. The technique was developed jointly by General Motors Fisher Body Div. and the manufacturer. *Better Finishes & Coatings Co.*

Power Units (RA-4)

The Petter air-cooled diesel engine, the new brushless Lima generator, and a two-speed controller and battery-charging circuit are incorporated in the Frigiking diesel power units, Models TR-350, TR-550 and TR-800. The engine is designed to start in ambients down to 15 deg below zero without use of a preheater, ether or other cold-starting aids. A standard 12-volt, d-c automotive starter and battery are used for cranking. *Frigikar Corp.*

Protective Paint (RA-5)

A dried protective finish of 4 to 6 mils is said to be obtained with one coat of DTM, a direct-to-metal paint. It is applied with an airless spray unit to a wet film thickness of 8 mils without sagging. With the one-coat application, "down time" of cars in shops is said to be reduced two or three days. Labor costs are also lowered. Present colors are bright red, iron oxide red, black and gray. Other colors will be available later. *Detroit Graphite Co.*

Corrosion Control (RA-6)

Anatrol, a portable electrochemical system, uses a platinum cathode, stainless-steel reference electrode, and 12-volt, 200-amp hr batteries for power. On steel vessels corrosion caused by acids or other liquids is said to have been reduced by more than 90%. Passivity of system is said to have been maintained since January 29 on a mild-steel, 10,000-gallon tank car filled with a mixed fertilizer solution. *Continental Oil Co.*

RAILWAY AGE WEEKLY

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS ADVERTISED ON PAGES 2 3 4 6 8 11 12 14-15 26-27 28-29 30 31 32 33 35 36 37 38-39 40 41 42 43 44-45 46-47 48 49 50 51 52 53 54 55 56 57 58-59 60-61 62-63 64 73 75 76

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS AND LITERATURE DESCRIBED ON PAGES 65 and 66 MARKED RA-1 RA-2 RA-3 RA-4 RA-5 RA-6 RA-7 RA-8 NL-1 NL-2 NL-3 NL-4 NL-5 NL-6 NL-7 NL-8 NL-9 NL-10 NL-11

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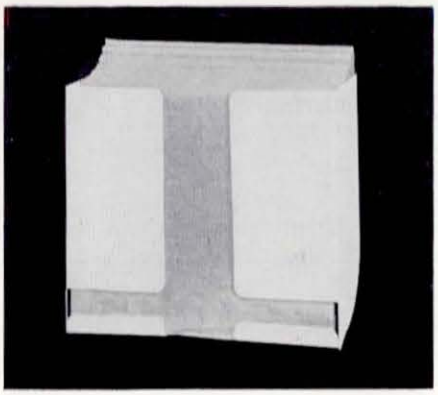
BRISTOL, CONN.

NEW PRODUCTS REPORT



Towel Dispenser (RA-7)

A wall-mounted disposable shop-towel dispenser, holding 20 towels, has been introduced for use in vending machines, trucks, locomotive cabs, and other areas where small numbers of industrial wipers are required. The dispensers have two 4- x ½-in. strips of double-faced pressure-sensitive tape for mounting. They are available in white enamel or natural black metal finish from distributors of Kimtowels, disposable shop towels. *Kimberly-Clark Corp.*

Lubricator-Shim (RA-8)

The SPC Dri-Lub center plate shim is made of 16 gauge special tempered spring steel with molybdenum disulphide fused to both sides. Applied in pairs on A and B ends of car, they are said to provide efficient and economical lubrication of center plates, and to reduce center plate galling and seizure, as well as wheel flange, rail and truck wear. Car sets of four 13½-in.-diam. shims are now available for 70-ton-capacity cars and larger. *Spring Packing Corp.*

New Literature

MAINTENANCE GUIDE FOR THE RAILROAD INDUSTRY. This Rust-Oleum Corp. publication includes actual color standards with detailed application data for use on rolling stock, structures and buildings and signalling and communications equipment. (NL-1)

ALSOP FILTERS. An Alsop Engineering Corp. bulletin giving information on sizing of filters as well as pictures and descriptions of several new filters. (NL-2)

LOCK NUTS. This catalog provides a complete listing of the MacLean-Fogg Lock Nut Co.'s prevailing torque and free-spinning lock nuts, weld nuts, flange nuts, cap nuts, and other nuts and screws. (NL-3)

LIGHTING SPECIFICATIONS. A new 12-page catalog from Stonco Electric Products Co. illustrates, among other things, incandescent and mercury vapor wall brackets, bullets, area floods and vaportight lighting. (NL-4)

MOISTURE CONTROL: COMPRESSED AIR. This new 16-page booklet of Van Products Co. includes data about the advanced engineering and operation of the Van-Air Dryer; certification and guarantee; and a description of the desiccant, Dry-O-Lite, developed by the firm's research and development department. (NL-5)

THERMO KING DEALER DIRECTORY. The directory names, state by state, Thermo King Corp. dealers from coast to coast and in Canada. The dealer firms' names, addresses, telephone numbers, and area telephone codes for direct dialing, are given. Thermo King manufactures transport refrigeration equipment (NL-6)

STATIONARY O-P DIESEL AND GAS ENGINES. A 20-page brochure describing the full Fairbanks-Morse line of stationary opposed piston diesel and gas engines in the model 38D8-⅛ series (8⅛-in. bore by 10-in. stroke). The brochure shows how the two-cycle O-P engine works, pictures the design features and lists ratings and principal dimensions. (NL-7)

PIGGY-BACK WRENCHES. A brochure illustrating and describing the Chicago Pneumatic Tool Co.'s full line of piggy-back air and electric wrenches. (NL-8)

HYDRAULIC CRANE ATTACHMENTS. Thirty-nine standard and special attachments to extend the usefulness of Baldwin-Lima-Hamilton Corp.'s Austin-Western hydraulic cranes are described in this 8-page illustrated brochure. (NL-9)

FREIGHT BRACING SYSTEMS. A new brochure on the Sparton Corp.'s steel and aluminum freight bracing systems for truck trailers in highway and piggyback operations. (NL-10)

SPRAYLAY STRIPPABLE COATING SYSTEM. This leaflet describes the method of using the Spraylat Corp.'s strippable coating system for storage and on-deck shipment of heavy equipment. (NL-11)

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4/8/63

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Southern	117,428	116,059	105,736
Northwestern	59,854	58,585	54,696
Central Western	111,278	112,941	111,284
Southwestern	39,947	39,908	37,531
Total Western Districts	211,079	211,434	203,511
Total All Roads.	558,611	565,098	506,917
Commodities:			
Grain and grain products	53,781	52,663	48,156
Livestock	3,314	3,531	4,162
Coal	105,693	100,967	82,465
Coke	8,214	8,584	5,720
Forest Products	36,333	38,700	34,435
Ore	16,319	19,560	14,653
Merchandise l.c.l.	19,004	24,858	31,360
Miscellaneous	315,953	316,235	285,966
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► *Cargill, Inc.*—Ordered remote control equipment, including 5 lb radio unit, from Union Switch & Signal division of WABCO for operating an unmanned 32-ton switcher locomotive at a grain handling facility at Port Allen, La.

Howard C. Kohout
LV

William V. Tuite
Simmons-Boardman

David Thaler
Simmons-Boardman

Edward A. Cleary
Jackson Vibrators

Donald Y. Clem
McConway & Torley

George J. Johanek
Gen. Ry. Signal

PEOPLE IN THE NEWS

CENTRAL VERMONT.—James R. McFarlane, assistant engineer, St. Albans, Vt., promoted to engineering officer of system lines between the Canadian border and New London, Conn. **George C. Ripley,** who has been with the CV since 1959, appointed assistant engineer—technical, St. Albans.

Walter J. Regan, passenger sales manager, will retire April 30.

CHESAPEAKE & OHIO.—Royal C. Riedinger, assistant to the president, and **Joseph C. Kauffman,** vice president—law, retired.

LEHIGH VALLEY.—Howard C. Kohout, regional manager, Philadelphia region, **Pennsylvania,** elected vice president and general manager, LV, New York, succeeding **Carl W. Baker,** who retired April 1, after 45 years with the LV.

LONGVIEW, PORTLAND & NORTHERN.—Carl E. Nolte, traffic manager, Western Division Traffic Department, International Paper Co., San Jose, Calif., named vice president—traffic, Longview, Portland & Northern, Longview, Wash.

MCKEESPORT CONNECTING—DONORA SOUTHERN.—James W. Hetherington, superintendent, Donora Southern, appointed superintendent, McKeesport Connecting, succeeding **Harry W. Vogenberger, Jr.,** general superintendent, retired. **George D. Reilly,** supervisor maintenance of way, McKeesport Connecting, succeeds Mr. Hetherington. **Samuel S. Boyd,** track standards supervisor, Union Railroad, named engineer of maintenance of way and structures, McKeesport Connecting, succeeding Mr. Reilly.

NEW HAVEN.—Henry T. Moorhead appointed assistant vice president—passenger traffic, New Haven, Conn. Abolished position of assistant general passenger traffic manager, formerly held by Mr. Moorhead.

NICKEL PLATE.—Kenneth B. Chilcot, assistant general freight traffic manager—rates, appointed assistant vice president—rates, Cleveland.

NORFOLK & WESTERN.—William E. Robertson, Jr., assistant superintendent of transportation, Roanoke, Va., retired March 31. **Leon Atkinson, Jr.,** and **Elwood Zieber,** assistants to the superintendent of transportation, named assistant superintendents of transportation. **John C. Ligaan** promoted to the new position of supervisor of transportation. **Curtis E. Mills** named assistant superintendent of car service, succeeding **H. I. Thomason,** retired. **Charles W. Dver, Jr.,** appointed assistant to superintendent of car service, succeeding Mr. Mills. **C. V. Holton,** assistant superintendent of transportation, assumes the post of N&W director of civil defense, formerly held by Mr. Robertson.

Reed W. Keiley, assistant foreign freight agent, Norfolk, promoted to foreign freight agent, Chicago, succeeding **John J. Evich,** who retired March 30, after 43 years with the N&W.

ONTARIO NORTHLAND.—T. D. Saunders, chief engineer, North Bay, Ont., appointed director of planning and research. **J. S. Cooper,** assistant chief engineer, promoted to chief engineer.

PENNSYLVANIA.—Harold H. Vaughn, manager, Buckeye Region, Cincinnati, Ohio, appointed Philadelphia regional manager, with jurisdiction over the Philadelphia terminal area, the main line to Harrisburg and important branches. Mr. Vaughn succeeds **Howard C. Kohout,** named vice president and general manager of the **Lehigh Valley,** PRR affiliate. **Richard C. Johnston** superintendent of equipment, Philadelphia region, appointed assistant chief mechanical officer—car, succeeding **Harry M. Wood,** retired. **Robert E. Blosser,** superintendent of transportation, Northern region, Buffalo, N.Y., appointed assistant to the general manager of transportation.

E. Robert Adams, assistant superintendent of transportation, Conway Yard, succeeds Mr. Blosser.

Samuel W. Seeman, manager, employee development, appointed director, personnel administration, in charge of system policy and programs for management development, supervisory training and other personnel activities, succeeding **Joseph F. Tripician,** retired after more than 45 years of railroad service. **John S. Stewart,** superintendent, personnel, Chesapeake region, Baltimore, succeeds Mr. Seeman as manager, employee development.

Supply Trade

Western Railroad Supply Co. has announced acquisition of the **Maintenance of Way Division** of **Du-Wel Steel Products Co.,** Chicago. The Du-Wel products will be incorporated in Western's Maintenance of Way Division.

Western Railroad Supply also has acquired **Roc-Wood Flooring Products Corp.,** Chicago, manufacturers of plastic flooring compound for freight car use. Sales offices and manufacturing will be moved from 1725 S. Michigan Avenue, to Western's Chicago plant, 2742 West 36th Place.

Simmons-Boardman Publishing Corp. announces the following changes in its Chicago offices: **William V. Tuite,** transportation editor, **Railway Age,** promoted to editor, **Railway Purchases and Stores,** succeeding Richard Stahl. A former Pennsylvania employee, Mr. Tuite joined Railway Age in 1960. **David Thaler,** a Chicago-area newspaperman and a journalism graduate of the University of Missouri, appointed regional news editor, **Railway Age,** Chicago, effective April 15.

Edward A. Cleary has been elected president and chief executive officer of **Jackson Vibrators, Inc.,** Ludington, Mich. Mr. Cleary, 43, was formerly executive vice president of Warner Electric Brake & Clutch Co., Beloit, Wis. Prior to joining this company he was with the management consulting firm of A. T. Kearney Co., Chicago. He was born and educated in New Jersey, receiving a B.S. degree in industrial management from Fairleigh Dickinson University.

Richard E. Bowe, president and treasurer, **McConway & Torley Corp.,** Pittsburgh, Pa., has been elected chairman of the board. **Donald Y. Clem,** executive vice president and secretary, succeeds Mr. Bowe as president.

George J. Johanek, manager, Commercial Engineering Department, **General Railway Signal Co.,** Rochester, N.Y., has been appointed manager of Rapid Transit Development. **Vincent D. Parrish,** manager of price and estimating, has been appointed manager of contract and application engineering.

Sperry Rail Service, Danbury, Conn., a division of Howe Sound Company, has implemented a new cost-per-mile discount schedule effective for all 1963 induction car testing contracts, according to an announcement by Arthur B. Allison, the company's chief executive officer. "These discounts," said the announcement, "are offered to our railroad customers to afford them substantial cost savings for their rail-testing budgets, prorated on the number of miles tested. In effect they will provide a direct savings in detector-car testing costs." The new schedule offers a minimum discount of 10 cents a mile for 500 to 1,000 miles of rail testing, and a maximum cost cut of $1.25 a mile for 11,525 miles or more.

OBITUARY

Emil C. Anderson, 88, retired mechanical engineer. **Burlington,** died March 25 at Collinsville, Ill.

John G. Hill, 86, retired freight traffic manager, **Erie Railroad,** died recently at Greencastle, Ind.

John Van Der Velde, 64, assistant to the general passenger traffic manager, **Erie-Lackawanna,** Cleveland, died March 24.

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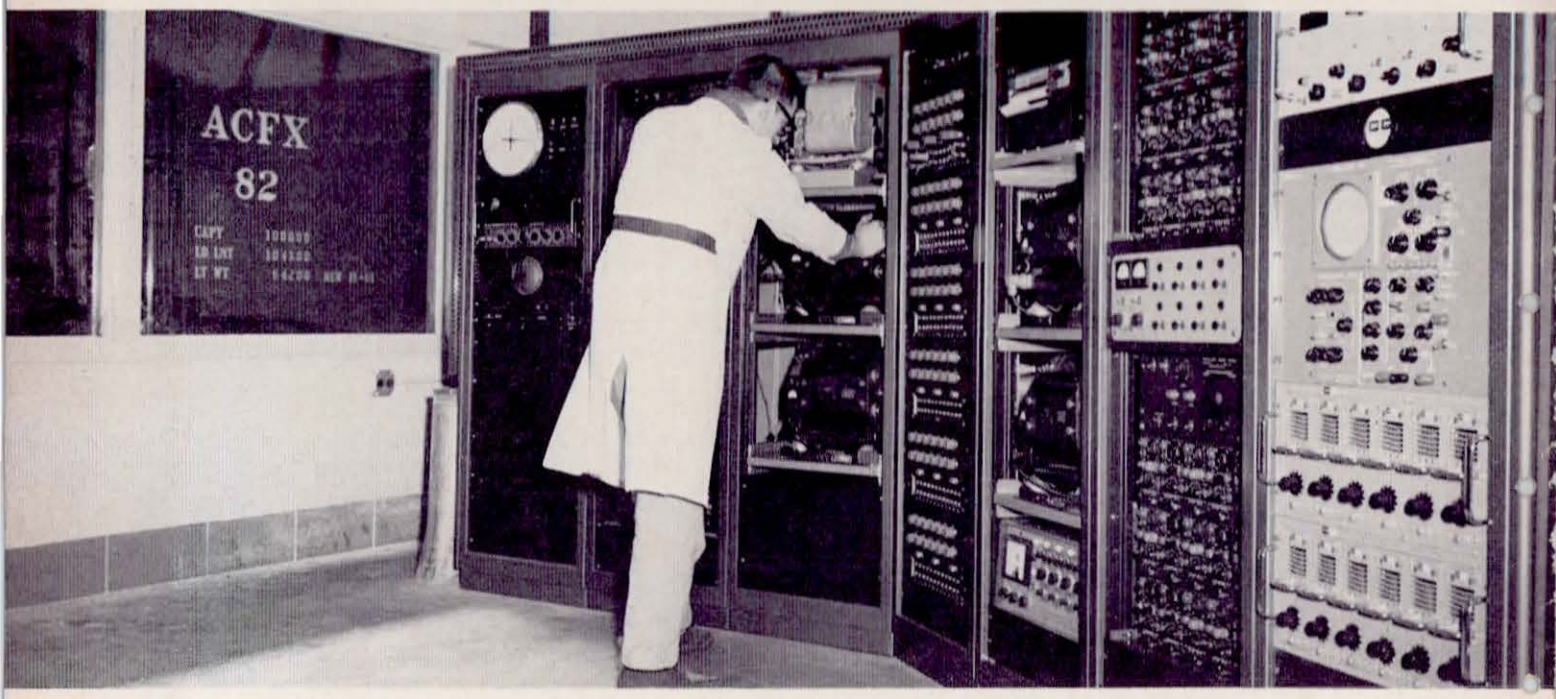
► *Belt Railway of Chicago.*—Ordered model 32 car retarder conversion equipment from Union Switch & Signal division of WABCO to convert two existing 36-cylinder electro-pneumatic car retarders at Clearing yard, Chicago, to the new model 32 retarders.

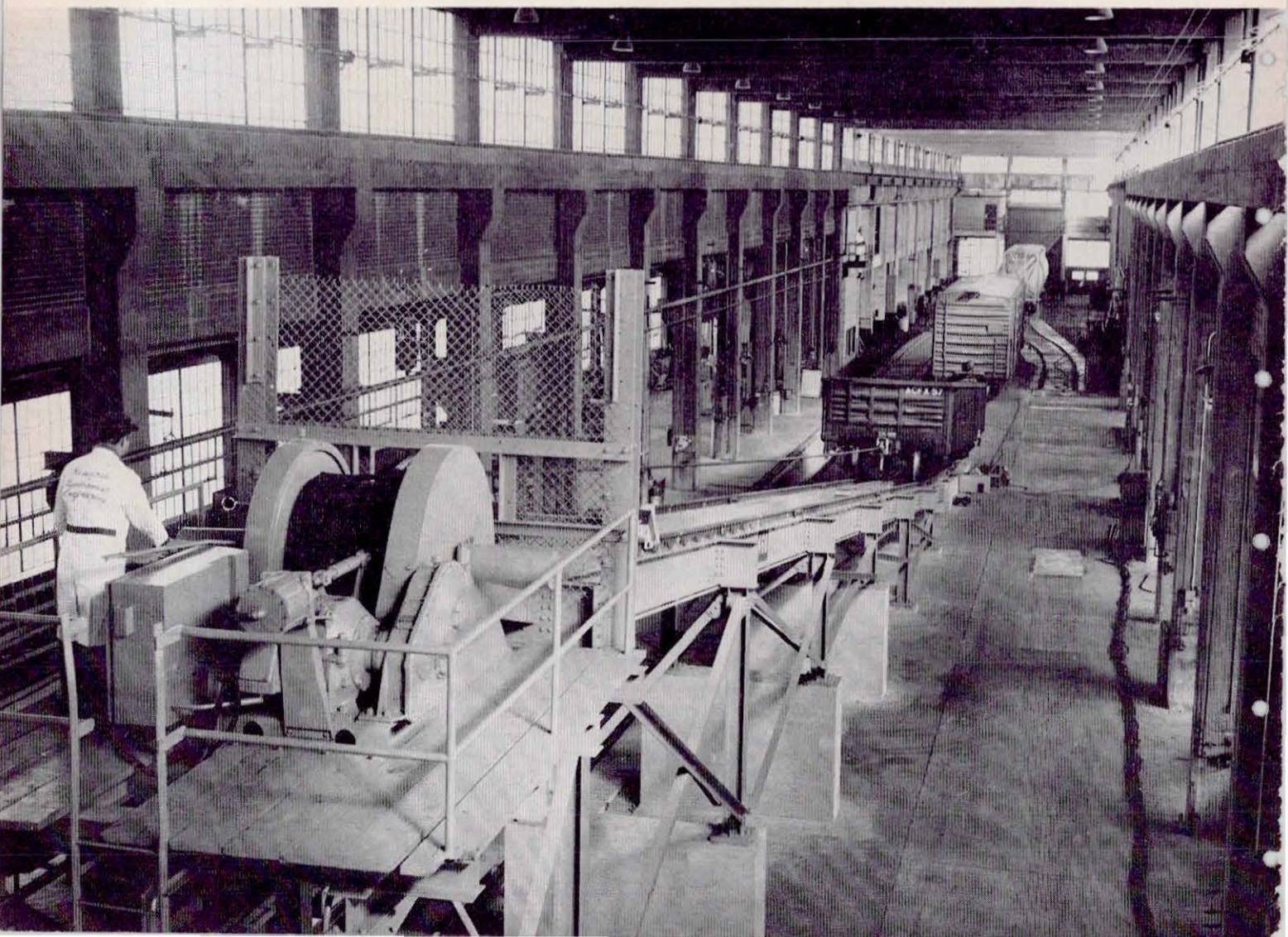
► *Canadian National.*—Has awarded contracts for grading the 262 miles that remain to complete the right-of-way of the Great Slave Lake Railway, the 432-mile line being built into the Northwest Territories.

► *Cargill, Inc.*—Ordered remote control equipment, including 5 lb radio unit, from Union Switch & Signal division of WABCO for operating an unmanned 32-ton switcher locomotive at a grain handling facility at Port Allen, La.

Car Development: New Emphasis



ELECTRONIC RECORDS, made on up to 100 channels simultaneously, are produced with data coming to electronic center (above) from car-mounted and wayside instruments on test ramp (below) or on static and dynamic test fixture.



at ACF

New facilities are to produce cars for bettering the railroads' competitive position.

A research and development facility for freight cars, the ACF Technical Center, is being dedicated this week at St. Charles, Mo. Its assignment: design of rolling stock that will enable railroads to assist their customers in lowering distribution costs.

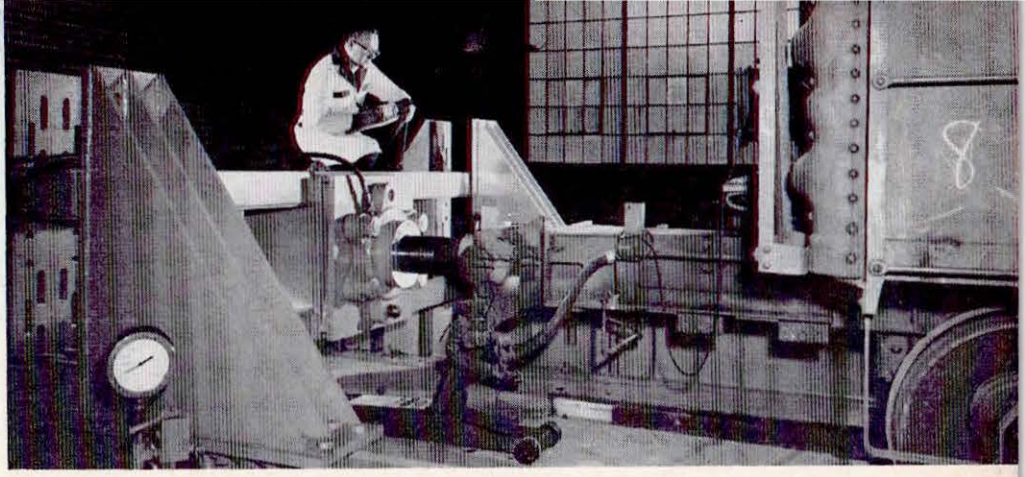
"The new Center symbolizes the changes that have taken place in rail transportation in the past few years," explains F. H. Boland, ACF vice president and general manager. "No longer, for instance, is it enough to offer merely a moving box or platform with which to carry goods or materials from one point to another. Now we must be prepared to supply larger volume cars that will fit into lower rate structures; cushioning systems that will reduce the need for expensive crating, packaging and dunnage; and faster loading and unloading methods. Without the technical answers to the shipping needs of today and tomorrow, all other factors —economic, administrative and legislative—become academic."

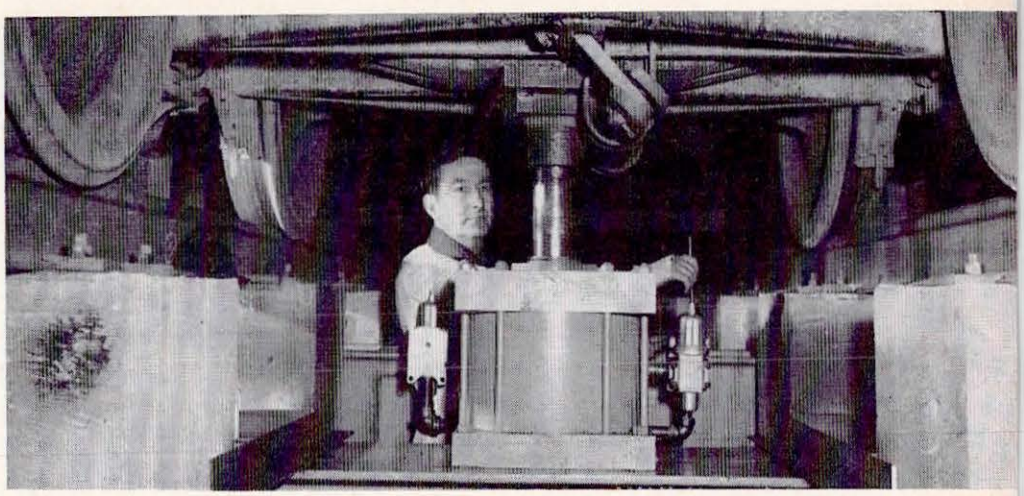
● **Centralizing staff.** The research, development, engineering and testing functions of the American Car & Foundry Division are now housed in two buildings formerly used for passenger-car production at the St. Charles plant. ACF's field sales organization also has its headquarters at the Technical Center, assuring that customer needs and products to fill these needs are funneled quickly into and out of the Center.

Layout of the Center, along with a significant portion of its research and testing equipment, was designed by ACF technical people so that it would fit their specific requirements. The staff totals 225.

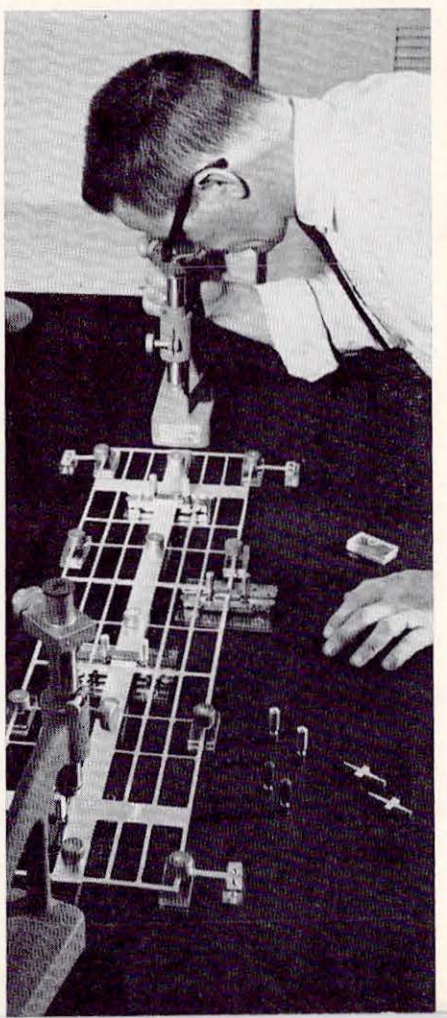
One of the important technical sections is the materials and processes laboratory where metals, plastics and coatings are appraised for their usefulness in car construction and their adaptability to manufacturing processes. The materials-handling laboratory does basic research on bulk materials and handling systems to help railroads capture attractive dry bulk traffic.

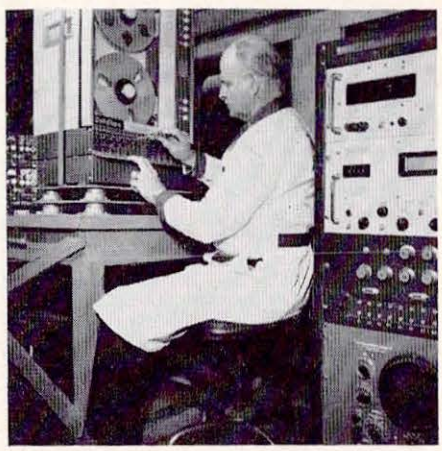
The product-testing program, involving the test ramp and the static and dynamic test fixture, subjects prototype cars to forces like those which are encountered in over-the-road service.





STATIC AND DYNAMIC test fixture can apply a 1,000,000-pound pull or a 1,250,000-pound squeeze to any freight car (top); fatigue test bounces car to duplicate road service (lower) so years of operation can be simulated quickly.





DEVELOPMENT follows stages from specification of transportation problem through preliminary product design which can include photoelastic stress analysis of model car underframe (left) to building of prototype car for testing on impact ramp and in static and dynamic test fixture. Experimental car can also be road tested, accompanied by new ACF instrument car which has been converted from passenger coach and is fitted with wide diversity of laboratory-type equipment. This car has magnetic tape recorder (above), new to railroad testing, which along with other instruments measures factors such as strains, velocity and acceleration.

Howard C. Kohout
LV

William V. Tuite
Simmons-Boardman

David Thaler
Simmons-Boardman

Edward A. Cleary
Jackson Vibrators

Donald Y. Clem
McConway & Torley

George J. Johanek
Gen. Ry. Signal

PEOPLE IN THE NEWS

CENTRAL VERMONT.—James R. McFarlane, assistant engineer, St. Albans, Vt., promoted to engineering officer of system lines between the Canadian border and New London, Conn. **George C. Ripley,** who has been with the CV since 1959, appointed assistant engineer—technical, St. Albans.

Walter J. Regan, passenger sales manager, will retire April 30.

CHESAPEAKE & OHIO.—Royal C. Riedinger, assistant to the president, and **Joseph C. Kauffman,** vice president—law, retired.

LEHIGH VALLEY.—Howard C. Kohout, regional manager, Philadelphia region, **Pennsylvania,** elected vice president and general manager, LV, New York, succeeding **Carl W. Baker,** who retired April 1, after 45 years with the LV.

LONGVIEW, PORTLAND & NORTHERN.—Carl E. Nolte, traffic manager, Western Division Traffic Department, International Paper Co., San Jose, Calif., named vice president—traffic, Longview, Portland & Northern, Longview, Wash.

MCKEESPORT CONNECTING—DONORA SOUTHERN.—James W. Hetherington, superintendent, Donora Southern, appointed superintendent, McKeesport Connecting, succeeding **Harry W. Vogenberger, Jr.,** general superintendent, retired. **George D. Reilly,** supervisor maintenance of way, McKeesport Connecting, succeeds Mr. Hetherington. **Samuel S. Boyd,** track standards supervisor, Union Railroad, named engineer of maintenance of way and structures, McKeesport Connecting, succeeding Mr. Reilly.

NEW HAVEN.—Henry T. Moorhead appointed assistant vice president—passenger traffic, New Haven, Conn. Abolished position of assistant general passenger traffic manager, formerly held by Mr. Moorhead.

NICKEL PLATE.—Kenneth B. Chilcot, assistant general freight traffic manager—rates, appointed assistant vice president—rates, Cleveland.

NORFOLK & WESTERN.—William E. Robertson, Jr., assistant superintendent of transportation, Roanoke, Va., retired March 31. **Leon Atkinson, Jr.,** and **Elwood Zieber,** assistants to the superintendent of transportation, named assistant superintendents of transportation. **John C. Liggan** promoted to the new position of supervisor of transportation. **Curtis E. Mills** named assistant superintendent of car service, succeeding **H. I. Thomason,** retired. **Charles W. Dyer, Jr.,** appointed assistant to superintendent of car service, succeeding Mr. Mills. **C. V. Holton,** assistant superintendent of transportation, assumes the post of N&W director of civil defense, formerly held by Mr. Robertson.

Reed W. Keiley, assistant foreign freight agent, Norfolk, promoted to foreign freight agent, Chicago, succeeding **John J. Evich,** who retired March 30, after 43 years with the N&W.

ONTARIO NORTHLAND.—T. D. Saunders, chief engineer, North Bay, Ont., appointed director of planning and research. **J. S. Cooper,** assistant chief engineer, promoted to chief engineer.

PENNSYLVANIA.—Harold H. Vaughn, manager, Buckeye Region, Cincinnati, Ohio, appointed Philadelphia regional manager, with jurisdiction over the Philadelphia terminal area, the main line to Harrisburg and important branches. Mr. Vaughn succeeds **Howard C. Kohout,** named vice president and general manager of the **Lehigh Valley,** PRR affiliate. **Richard C. Johnston** superintendent of equipment, Philadelphia region, appointed assistant chief mechanical officer—car, succeeding **Harry M. Wood,** retired. **Robert E. Blosser,** superintendent of transportation, Northern region, Buffalo, N.Y., appointed assistant to the general manager of transportation.

E. Robert Adams, assistant superintendent of transportation, Conway Yard, succeeds Mr. Blosser.

Samuel W. Seeman, manager, employee development, appointed director, personnel administration, in charge of system policy and programs for management development, supervisory training and other personnel activities, succeeding **Joseph F. Tripician,** retired after more than 45 years of railroad service. **John S. Stewart,** superintendent, personnel, Chesapeake region, Baltimore, succeeds Mr. Seeman as manager, employee development.

Supply Trade

Western Railroad Supply Co. has announced acquisition of the **Maintenance of Way Division** of **Du-Wel Steel Products Co.,** Chicago. The Du-Wel products will be incorporated in Western's Maintenance of Way Division.

Western Railroad Supply also has acquired **Roc-Wood Flooring Products Corp.,** Chicago, manufacturers of plastic flooring compound for freight car use. Sales offices and manufacturing will be moved from 1725 S. Michigan Avenue, to Western's Chicago plant, 2742 West 36th Place.

Simmons-Boardman Publishing Corp. announces the following changes in its Chicago offices: **William V. Tuite,** transportation editor, **Railway Age,** promoted to editor, **Railway Purchases and Stores,** succeeding Richard Stahl. A former Pennsylvania employee, Mr. Tuite joined Railway Age in 1960. **David Thaler,** a Chicago-area newspaperman and a journalism graduate of the University of Missouri, appointed regional news editor, **Railway Age,** Chicago, effective April 15.

Edward A. Cleary has been elected president and chief executive officer of **Jackson Vibrators, Inc.,** Ludington, Mich. Mr. Cleary, 43, was formerly executive vice president of Warner Electric Brake & Clutch Co., Beloit, Wis. Prior to joining this company he was with the management consulting firm of A. T. Kearney Co., Chicago. He was born and educated in New Jersey, receiving a B.S. degree in industrial management from Fairleigh Dickinson University.

Richard E. Bowe, president and treasurer, **McConway & Torley Corp.,** Pittsburgh, Pa., has been elected chairman of the board. **Donald Y. Clem,** executive vice president and secretary, succeeds Mr. Bowe as president.

George J. Johanek, manager, Commercial Engineering Department, **General Railway Signal Co.,** Rochester, N.Y., has been appointed manager of Rapid Transit Development. **Vincent D. Parrish,** manager of price and estimating, has been appointed manager of contract and application engineering.

Sperry Rail Service, Danbury, Conn., a division of Howe Sound Company, has implemented a new cost-per-mile discount schedule effective for all 1963 induction car testing contracts, according to an announcement by Arthur B. Allison, the company's chief executive officer. "These discounts," said the announcement, "are offered to our railroad customers to afford them substantial cost savings for their rail-testing budgets, prorated on the number of miles tested. In effect they will provide a direct savings in detector-car testing costs." The new schedule offers a minimum discount of 10 cents a mile for 500 to 1,000 miles of rail testing, and a maximum cost cut of $1.25 a mile for 11,525 miles or more.

OBITUARY

Emil C. Anderson, 88, retired mechanical engineer. **Burlington,** died March 25 at Collinsville, Ill.

John G. Hill, 86, retired freight traffic manager, **Erie Railroad,** died recently at Greencastle, Ind.

John Van Der Velde, 64, assistant to the general passenger traffic manager, **Erie-Lackawanna,** Cleveland, died March 24.

YOU OUGHT TO KNOW

Traffic is being eroded on the B&O, by truck and water competition, at the rate of 33,000 carloads a year. So President Langdon reported to the New York Transport Research Forum April 2. The only remedy for this situation, he said, is to reflect railroads' low costs in rates that will "make competition —not just meet it." He said effectiveness of this approach has been proved by eastern rates on paint which have doubled B&O traffic in that commodity. He added that the AAR's current study of costing will aid this program, as will intensified market research and less restrictive regulation.

Pennsylvania-New York Central merger hearings before ICC examiners J. K. Lyle and Henry Darmstadter are now in their third week of the present Washington sessions. Including these and previous sessions in Washington and elsewhere, there have been some 80 days of hearings in the case. Intervening railroads in addition to the Erie-Lackawanna and Delaware & Hudson (RA, April 1, p. 10) have included the Boston & Maine, which favors a New England system with sufficient trunk-line support "to assure viability." If such a system is not formed, and the New Haven is included in the proposed PRR-NYC system, B&M wants to be in there too, or in the proposed N&W-Nickel Plate system. Western Maryland, having got a satisfactory agreement for maintenance of its relationships with the Pittsburgh & Lake Erie, supports the PRR-NYC merger.

Railroads have carried more than 80% of the total tonnage of goods moved to Cuba under the prisoner-exchange program. The total represents more than 400 carloads of food and drugs carried without charge by over 40 railroads. The latest shipment — 1,642 tons of baby foods and medicines—was loaded aboard ship in Philadelphia on March 29.

Montreal-New York passenger fares will be cut substantially under an experimental plan set up by the Canadian National, the Central Vermont, Boston & Maine and the New Haven. The new rates—effective April 28—will reduce coach travel by 22% and first-class travel by 27%. Under the plan, it will cost $25 for a coach round-trip, and $33.80 for the first-class trip.

New coal-train freight rates went into effect March 30 on the Pennsylvania, and by the end of last week the railroad's mine-to-consumer shuttle service under the reduced rates was rolling along in high gear. Half a dozen unit coal trains were scheduled in as many days for moves between mines in western and central Pennsylvania and northern West Virginia and eastern electric generating plants. The new freight rates to a single destination represent reductions of $1.50 a ton on shipments of 7,000 tons from one or two origins, $1.25 a ton on 7,000 tons from three or more origins, and 85 cents a ton on 4,500-ton trainload lots from one or more origins. The rates apply to specified destinations in Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania and Virginia.

More time has been given interested parties to express their views on the new commodity classification, the "ICC Standard Commodity Code," which the Commission is proposing in the No. 34206 case (RA, April 1, p. 10). The deadline for filing presentations has been set back to May 6.

E. C. R. Lasher, president, North American Car Corp., has been named general chairman of the 18th Annual Transportation and Logistics Forum of the National Defense Transportation Assn., to be held at the Pick-Congress Hotel, Chicago, Sept. 29-Oct. 2.

A wage hike plus extra pension and vacation benefits are being sought for supervisory personnel on 86 railroads by the American Railway Supervisors' Association. ARSA President James P. Tahney said notices served April 1 call for a basic wage increase of $50 a month; annual maximum vacation of four weeks; supplemental pensions of $100 a month for men with 25-34 years of service, $115 for those with 35-39 years, and $125 for employees with 40 or more years. Mr. Tahney said ARSA represents about 6,000 supervisory employees and has 148 agreements covering occupations such as car-department foreman, roundhouse foreman, section foreman and signal foreman.

An average of 942,637 miles per hotbox setoff was achieved in 1962 by AAR member roads, based on Mechanical Division figures. This was almost 2½ times better than the 394,446 miles per setoff for 1961. December 1962's 1,187,801 miles per setoff represented the third straight month when the average exceeded 1,000,000. In December, 42 railroads operated with over 1,000,000 miles per setoff, or produced more than 1,000,000 car-miles with no setoffs. Sixteen roads exceeded 2,000,000 miles, and top place was held by the Reading with 5,792,356 miles per setoff.

Piggyback's fast growth has pushed truck-trailer manufacturers squarely into the railroad equipment supply business, says Patrick B. McGinnis, chairman of the Boston & Maine and a director of Highway Trailer Industries. Over the next decade, he believes, 600,000 trailers or containers will replace 300,000 over-age box cars. Mr. McGinnis calls for further piggyback rate simplification, "but equally important is the development of universally accepted design standards for containers." If manufacturers and railroads don't do this, he warns, regulatory bodies may, "and since government agencies are not always primarily concerned with cost, their standards might add unnecessary weight and construction which would price the container out of the market."

YOU OUGHT TO KNOW CONTINUED

Computers represent "a potential for enriching and enlarging rather than diminishing the job of the manager of the middle level," Canadian National President N.R. Crump told a meeting of the National Office Management Association at London, Ont. Mr. Crump said computers "should allow more time to work on unstructured decisions, that is, on decisions that depend upon intuitive rather than quantitative factors, as opposed to well structured decisions which can be made on the basis of quantified elements, and thus to deal more effectively with the analytical and creative aspects of the manager's job."

Total CTC mileage on the New York Central will rise to 2,750 this year with extension of control to an additional 157 track miles. In 1962 NYC installed CTC on 411 track miles.

First rail earnings report for March came last week from Chesapeake & Ohio, which reported net income for the month of $2,633,000, compared with $2,262,000 in March 1962. C&O's first-quarter profits came to $6,995,000, against $5,953,000 in last year's first three months.

Southern's plan for bringing the former Georgia & Florida into its system has been approved by the ICC. The plan involves purchase of G&F properties from its receiver for $7,500,000. The purchaser will be the newly-organized Georgia & Florida Railway Co., which will be controlled, through stock ownership, by two Southern subsidiaries — Carolina & Northwestern and Live Oak, Perry & Gulf. Southern's application for authority to acquire indirect control of G&F was dismissed as unnecessary. The Commission imposed only the usual labor-protection conditions, rejecting an examiner's recommendation that it add provisions for arbitration of disputes. The applicants convinced the Commission that this would result in failure to consummate the transaction. The majority's disposition of that issue drew a dissenting-in-part expression from Commissioner Webb, with whom Commissioner Hutchinson agreed.

Dispatcher-controlled radio stations provide direct and immediate voice communications between dispatchers and train crews on the Seaboard Air Line. To supplement CTC, the SAL installed dispatcher-controlled radio stations at six additional locations during 1962.

Additions to List of Chicago Exhibitors

The names of a number of companies were incorrectly listed or omitted from the list, published in the March 18 issue, of railway suppliers that have taken space in the Combined Railway Supplier Exhibit to be held at McCormick Place, Chicago, October 9-16. The additions and corrections, all involving companies with space inside the the exhibit hall, follow:

Aeroquip Corp. (was correctly listed as also participating in track exhibit)
Electric Materials Co.
Nordberg Manufacturing Co.
Poor & Co., P&M, Meco, Rail Joint and Peerless Products
Railway Maintenance Corp.
The Pocket List of Railroad Officials
Standard Forgings Corp (was incorrectly listed among track exhibitors)
Tamper, Inc.
U. S. Radium Corp.

The BLF&E honored William R. Bennett, an employee of the Butte, Anaconda & Pacific, as "Locomotive Fireman of 1962" at its Annual Safety Award Banquet in Washington March 28. The award was made in recognition of Mr. Bennett's heroism in saving a two-year-old boy, Mark Erickson, from being run over by a freight train on June 22, 1962. The child was playing on the track as the train approached. Mr. Bennett jumped from the locomotive and raced ahead of the train, grabbing the child and rolling with him down a rocky embankment out of the path of the nine-car train. Governor Frank E. Clement of Tennessee was speaker at the banquet where BLF&E President H. E. Gilbert presided.

Railroad ton-miles will increase more than 55% by 1980 and will nearly triple by the year 2000, predicts a new study ("Resources in America's Future: Patterns of Requirements and Availabilities, 1960-2000") released last week by Resources for Future, Inc., a non-profit corporation supported by the Ford Foundation. The growth of intercity truck ton-miles will be greater, says the study, and the truck ton-mile total will probably pass the rail ton-mile total by the end of the century.

The 1963 "Springtime in the Rockies" rail tour will be conducted May 4-12. Traveling from San Francisco on the "California Zephyr," the tour will visit Salt Lake City, Colorado Springs and Denver.

A "pay-as-you-ride" plan — under which money-losing country stations would be left unmanned, with passengers purchasing tickets on board trains—is being proposed by British Railways. Object is to trim deficits and preserve service on lines that can't now pay their way. A pilot project involving 10 railway stations (and elimination of 60 jobs) between Tunbridge Wells and Hastings—principally a commuting line to London—is expected to encounter strong union opposition. Reason for the move: Half of Britain's 7,000 stations account for only 1% of total station revenues.

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Submit resumes to: RAILWAY AGE, EMPLOYMENT OPPORTUNITIES SECTION, BOX 538, 30 Church Street, New York 7, New York.
Plant interviews will be scheduled.

REPRINTS

Reprints of articles appearing in this issue are available in minimum quantities of 250. For information on prices, write to George Johnson, Railway Age, 30 Church St., New York 7, N.Y.

MANAGEMENT TRAINEE
29 years old, college, 3 years industrial traffic experience, 11 years railroad experience, due to a merger seeks challenging opportunity in management. For further information and a resume, please write Box 540, RAILWAY AGE, 30 Church Street, New York 7, N.Y.

EUROPEAN INFORMATION
Off-duty reading for railroad men—"European Railways" magazine Quarterly, illustrated, interesting—includes features on East & West Europe. Only $2.50 a year. $4.50 two years or send $1 for 3 sample copies. (Pay by check or Int. Money Order). European Railways, Evelyn Way, Cobham, Surrey, England.

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Trends . . . All Important

What opportunities are there to develop other trends in railroading which would be as profitable as TOFC and heavy loading?

There are certainly two areas of railroading, in particular, where progress is going forward at a spectacular rate, viz., in piggyback transportation and in securing increased loading per car. Can ways be found to induce similar progress in other segments of the industry?

Piggybacking is not new. It struggled along on a microscopic scale for years, before, finally, it caught on. Likewise with heavier loading of cars. Railroad people preached this doctrine for years to shippers, appealing more often to motives of altruism and patriotism than to their self-interest. And, then, there came along the widespread movement toward so-called "incentive rates," whereby a generous share of the economies of heavier car loading were offered to shippers to repay their effort to load cars more heavily. Tangible results followed immediately—to the great advantage of railroads and patrons alike.

Meantime, more and more railroad managers widened their knowledge of railroad costs—and particularly of the high cost of terminal handling. According to the so-called Form A costing method, initial and final terminal costs per box car vary from an average of a little more than $40 to almost $80. And the terminal cost to the railroad is hardly any less for a small car with a light load than for a big car with a heavy load. (This cost relationship between heavily and lightly loaded cars holds true, even if the Form A costs, as many suspect, are questionably high.)

Acting on understanding of this situation, foresighted railroads began ordering larger and larger cars (or, in the case of privately owned equipment, inducing shippers to do so). The trend toward larger cars, and incentives to shippers to load all cars more heavily, is now well established—and is yielding a gratifying harvest.

Are there other latent opportunities for improved economy—and improved competitiveness—in railroad service which, if dramatized and popularized, could be as constructively effective, perhaps, as piggybacking and incentive rates have been?

One such dormant opportunity might lie in what may be called *trend-correction rate-making.*

Downward Trend		Upward Trend	
Time	Revenue	Time	Revenue
4 Years Ago	$500,000	This Year	$100,000
3 Years Ago	400,000	Next Year	200,000
2 Years Ago	300,000	2 Years Hence	300,000
Last Year	200,000	3 Years Hence	400,000
This Year	100,000	4 Years Hence	500,000

The accompanying tabulation portrays typical downward and upward trends in railroad revenue which may be occurring with any commodity. There are scores, even hundreds, of commodities on which there has been a downward revenue trend, not unlike that shown in the first column of the table. There are a few where an upward trend, such as that shown in the second column, can be found.

The fact has not, as yet, been generally recognized that *$100,000 of revenue this year, if the revenue trend is upward, is much to be preferred to $500,000 of present revenue, if the trend is downward.* In two or three years' time, the commodity with the present $100,000, trending upward, is going to pass the present $500,000-earner; and four years from now the two commodities will have exactly reversed their present relative positions as contributors to railroad earnings.

It takes a great deal of courage, and successful small-scale experiments, to induce a rate officer to trim an attractive rate of profit on existing traffic, in order to reverse a declining trend—but what other course holds out dependable hope for favorable future earnings?

Quest for Desirable Trends

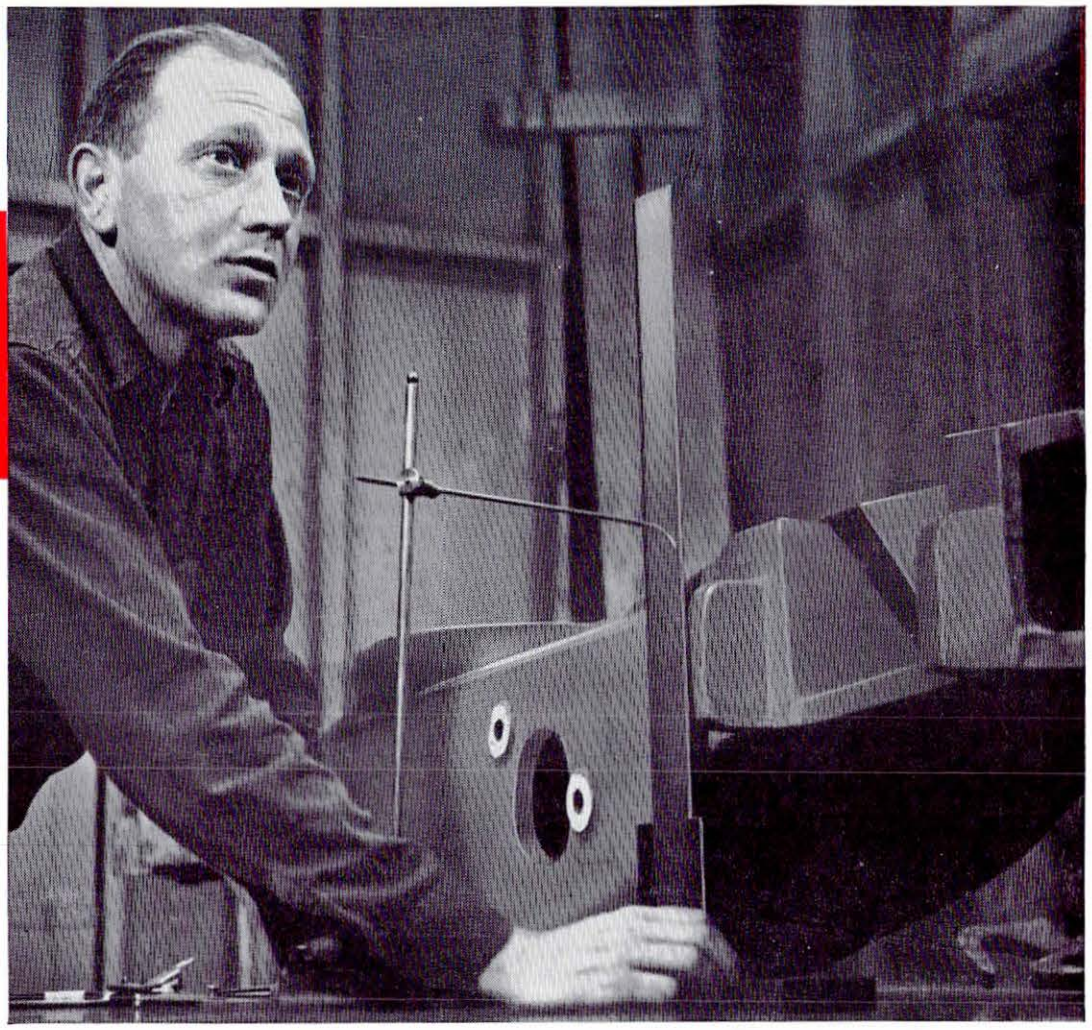
Trend-correction might well prove to be as profitable a course, if it were to be thoroughly tested, as piggyback expansion, incentive rate-making, and supplying larger cars have already turned out to be.

There is a growing appreciation among rate officers of the anti-economic "shape" of the class rate progressions (all of which tend to be noncompetitively high for the medium distances, where, as a rule, most of the tonnage moves). This situation is now well recognized by many leading rate officers and corrective action is already under way. And, then, there are the possibilities of the "integral train" to be further explored.

Of course, neither railroads nor any other business are likely to get rich solely by reducing prices. There are many "dishes with the oatmeal" premium services provided by railroads that do not pay their way; and should do so (another desirable trend).

TOFC had no tangible significance in its early microscopic stage. It became important when it gathered enough momentum to attract emulation. The same is true of incentive rates and larger cars. How many more equally productive opportunities are there for teamwork to establish favorable and widely supported trends? Any suggestions?

CHARLIE HUGHES
CASTING CHECKER
WITH SYMINGTON
FOR 18 YEARS

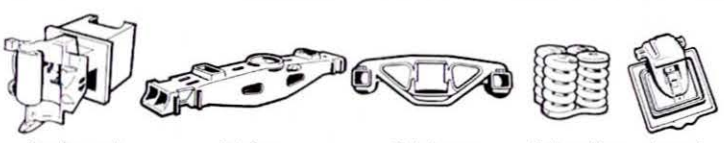


HE MAKES AS MANY AS 200 DIMENSIONAL CHECKS BEFORE GIVING THE GO-AHEAD FOR A PRODUCTION RUN

Symington's Charlie Hughes has the job of checking the sample casting before each production run to see if it meets dimensional requirements. On a big casting, such as a bolster, he may spend up to 8 hours, working with surface gages, calipers, scales and blueprints to verify as many as 200 individual dimensions. Whether or not a production run is started depends on his report.

A big responsibility—but one for which Charlie Hughes has had ideal training. Five years as an apprentice patternmaker (along with night school to learn mechanical drawing and blueprint reading); 12 years as a fully qualified patternmaker.

Highly skilled craftsmen like Charlie Hughes (whose father was a coremaker with Symington for 40 years) are the key to reliability in all Symington products. Despite increasingly sophisticated production tools, first-class workmanship still counts in terms of your operating and maintenance costs.



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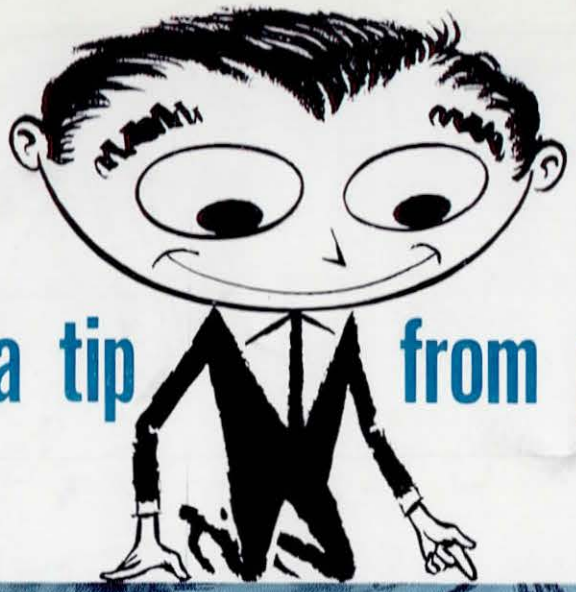

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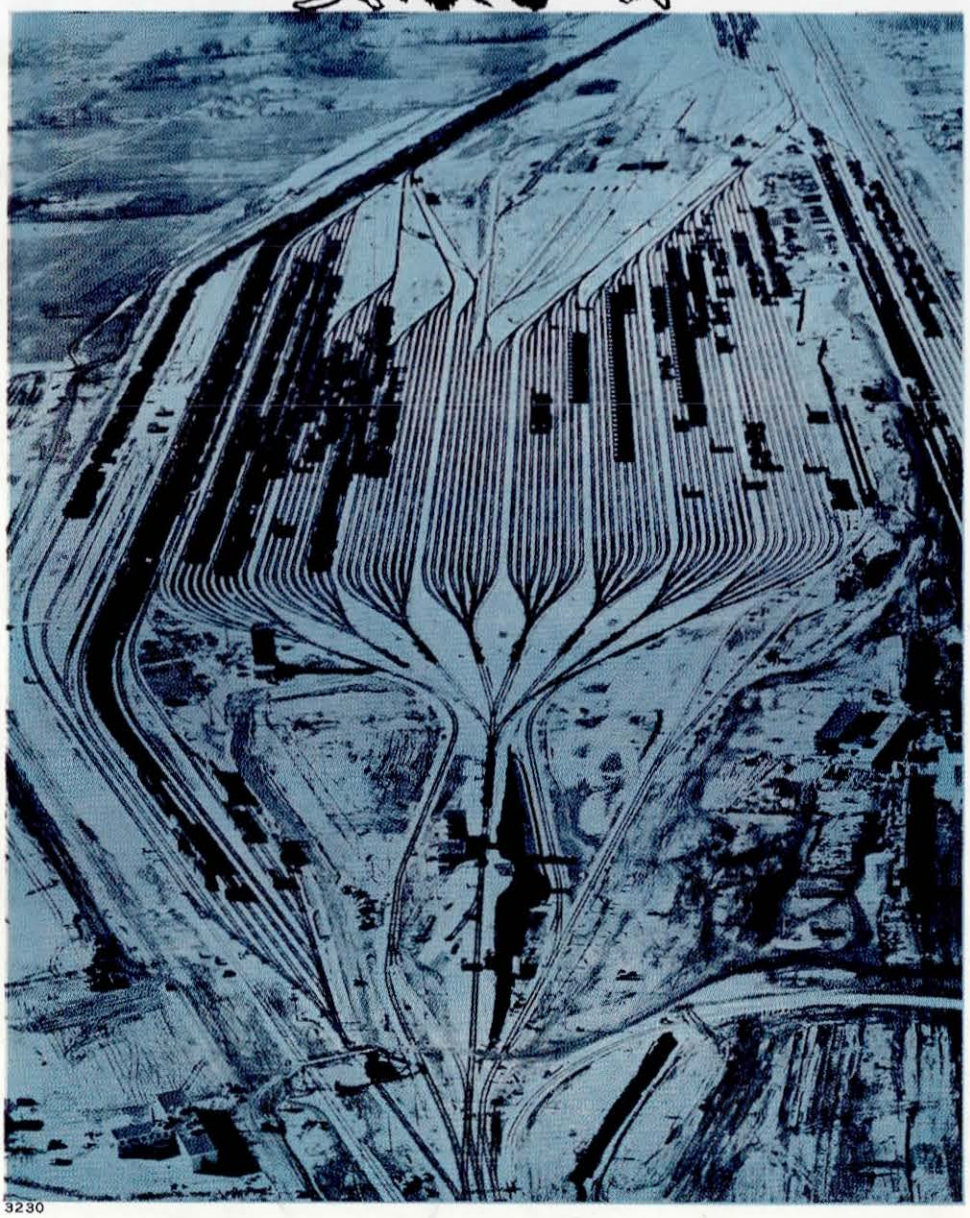

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